The environmental, recreational and conservational reasoning behind hunters' preferences and activities in South Africa

by

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DECLARATION

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ABSTRACT

South Africa is one of the most popular hunting destinations in Africa. International as well as local hunters enjoy the country's diverse landscapes and rich variety of wildlife species. Hunting for meat and trophy hunting – two forms of consumptive tourism – are perceived as appropriate wildlife management tools but both are causing emotional and heated debates between opponents and advocates of hunting. If conducted in an ecological sustainable way, hunting can help to provide the financial means for nature conservation and create job opportunities in rural areas. The opponents of hunting question these potential benefits and they highlight the ethical considerations inherent to the sport.

The study aimed to contribute to the academic knowledge on hunting by assessing the geography (the what, where and why) of meat and trophy hunting in South Africa as well as the hunters' perceptions of and attitudes to their recreational hunting activities and their contributions to wildlife conservation in general. The six research objectives were first to review the appropriate international literature on the history of hunting; the theories on human-environment relationships and pro-environmental behaviour, as well as the constructs and concepts about hunters' motivations to hunt; available case studies on consumptive wildlife tourism and the different types of hunting; and the link between hunting and conservation. The second objective was to review literature relevant to assessing the larger picture of meat and trophy hunting in South Africa. Third, it sought to create a demographic profile for the local biltong-and-trophy-hunter community in South Africa. Fourth was to question the hunters in which municipalities they live and in which they hunt so as to map the geography of hunters and hunting areas in South Africa. The fifth objective was to assess the environmental, recreational and conservational reasoning behind South African hunters' hunting preferences, decisions and activities. Last was to assess the hunters' perceptions of uploading hunting photographs on social media.

The study followed a mixed-methods approach. A questionnaire survey was undertaken among members of two South African hunting associations (South African Hunters and Game Conservation Association and the Professional Hunters' Association of South Africa). One-thousand-four-hundred-and-nine (1409) completed questionnaires were received back. Data were captured and analysed using STATISTICA, Excel and ArcMap.

The findings indicated that South African hunters have a high degree of awareness of the environmental problems facing the African continent. Although most of the respondents in the survey exclusively hunt for meat, they do approve of trophy hunting. It was found that the

hunters' concerns revolve around the long-term effects of hunting on the genetic pool of species and the possible unethical nature of hunting. Their approval depends on the type of wildlife hunted and the income generated. The principal hunter-generating areas were Gauteng and Western Cape while the district municipalities receiving the most hunters were Waterberg in Limpopo and Pixley ka Seme in Northern Cape. The most important reasons for hunting were the wish to obtain meat for consumption, to be outdoors and to enjoy the sport of hunting. The possibility to shoot trophy animals was ranked lowest. It was also found that the proponents approve of sharing photographs of hunting trips online but they do not do so for fear of public reaction. Furthermore, respondents with a higher level of education are the most likely to support nature conservation efforts financially.

A few limitations were encountered. Questions number 8 and 28 of the questionnaire survey dealt with the origin of the hunters (district municipality) and their hunting destinations (district municipality). These questions were developed as open-ended questions. Unfortunately, some of the respondents did not indicate the exact locations for the district municipalities in which they reside or hunt in. Therefore, the locations of only 659 responses could be pinpointed and used in the mapping of the origins of hunters and their hunting destination. Recommendations include further research on the connection between hunting and social media as well as on the spatio-temporal relationship between hunters and their hunting destinations.

OPSOMMING

Suid-Afrika is een van die gewildste jagbestemmings in Afrika. Internasionale sowel as plaaslike jagters geniet die land se uiteenlopende landskappe en die ryk verskeidenheid wildspesies. Jag vir die pot of trofeejag is twee vorme van wildlewe-toerisme, waar die hulpbron verbruik word, en word beskou as aanvaarbare instrumente vir wildbestuur, maar albei tipes jag gee aanleiding tot emosionele en heftige debatte tussen die voor- en teenstanders van jag. Indien jag ekologies meer volhoubaar bedryf word, kan jag help om die finansiële middele vir natuurbewaring te voorsien en ook by te dra tot die skep van werksgeleenthede in landelike gebiede. Die teenstanders van jag bevraagteken hierdie moontlike voordele, en hulle beklemtoon die etiese oorwegings wat by hierdie sport ingedrang kom. Die studie het ten doel gehad om 'n bydrae te lewer tot die akademiese kennis oor die geografie (die wat, waar en waarom) van vleis[1] – en trofeejag in Suid-Afrika, asook die jagters se persepsie en houdings oor hul ontspanningsjag-aktiwiteite asook die bydrae wat hulle tot wildbewaring in die algemeen maak.

Daar was ses navorsingsdoelwitte gestel. Die eerste doelwit was om die toepaslike internasionale literatuur oor die geskiedenis van jag; die teorieë oor die verhouding tussen mens en sy natuurlike omgewing asook omgewingsvriendelike gedrag; die konstrukte en konsepte rakende jagters se motiverings om te jag (pleksin en plek identiteit); gevallestudies oor jag as vorm van wildlewe-toerisme; die verskillende soorte jag; en die verband tussen jag en bewaring te hersien. Die tweede doelwit was om die groter prentjie van vleis- en trofeejag in Suid-Afrika te verstaan deur die gepaste literatuur te bestudeer. Die derde doelwit was om 'n demografiese profiel van die plaaslike biltong-en-trofeejagters in Suid-Afrika vas te stel. Die vierde doelwit was om vas te stel waar die jagters woon en waar hulle jag sodat die oorsprong van jagters en hul jaggebiede volgens distrik munisipaliteite gekarteer kon word. Die vyfde doel was om die omgewings-, ontspannings- en bewaringsredes agter Suid-Afrikaanse jagters se voorkeure, -besluite en -aktiwiteite te beoordeel. Die laaste was om die jagters se persepsie van jagfoto's op sosiale media platforms te beoordeel.

Die studie het 'n gemengde-metode navorsingsbenadering gevolg. 'n Vraelysopname is onder lede van twee Suid-Afrikaanse jagverenigings (Suid-Afrikaanse Jagters- en Wildbewaringsvereniging en die Professionele Jagtersvereniging van Suid-Afrika) onderneem. Eenduisend-vierhonderd-en-nege (1409) jagters het die vraelys voltooi. Data is vasgelê en

[1] Vleis of biltongjag

ontleed met behulp van STATISTICA, Excel en ArcMap. Die vraelys opname het bevind dat Suid-Afrikaanse jagters 'n groot mate van bewustheid het van die omgewingsprobleme waarmee die vasteland van Afrika te kampe het. Hoewel die meeste respondente in die opname uitsluitlik vir vleis jag, ondersteun hulle dat daar vir trofees gejag word. Jagters is bekommerd oor die langtermyneffekte wat jag op die genetiese poel van spesies kan hê en die moontlikheid dat onetiese jag gedrag kan voorkom. Die goedkeuring wat aan jag as ’n vorm van rekreasie of trofee jag verleen word, hang af van die soort wild wat gejag word en die inkomste wat gegenereer kan word. Volgens hierdie opname genereer Gauteng en Wes-Kaap provinsie die meeste jagters, terwyl die distriksmunisipaliteite wat die meeste jagters ontvang het, Waterberg in Limpopo en Pixley ka Seme in die Noord-Kaap was. Die belangrikste redes vir jag was die geleentheid om vleis vir eie verbruik te bekom, in die buitelug te wees en die jag as sport te geniet. Die moontlikheid om trofee-diere te skiet was oor die algemeen nie as ’n belangrike oorweging gesien nie. Die voorstanders van jag – ondersteun die plasing van foto's van jagtogte op sosiale media goed, maar die meeste van die respondente doen dit nie self nie uit vrees vir die openbare reaksie wat ontlok kan word. Verder ondersteun respondente met 'n hoër vlak van opleiding natuurbewarings pogings finansieel.

’n Paar beperkings is ondervind. Vrae nommer 8 en 28 van die vraelysopname het gehandel oor die oorsprong van die jagters (distriksmunisipaliteit) en hul jagbestemmings (distriksmunisipaliteit). Hierdie vrae is ontwikkel as oop vrae. Ongelukkig het sommige van die respondente nie die presiese liggings aangedui vir die distriksmunisipaliteite waarin hulle woon of jag nie. Daarom kon die ligging van slegs 659 response gebruik word in die kartering van die oorsprong van die jagters en hul jagbestemming. Aanbevelings vir verdere navorsing sluit in die analise van die verwantskap tussen jag en sosiale media in die algemeen en hoe sosiale media die publiek se persepsie oor hierdie vorm van rekreasie kan maak of breek asook die tydruimtelike analise van die oorsprong van jagters en waar hierdie jagters jag.

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ACRONYMS AND ABBREVIATIONS

ADA	Australian Deer Association
AMADE	Administrative Management Design for Game Management Areas
ANOVA	analysis of variance
BVN Theory	value-belief-norm Theory
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CHASA	Confederation of Hunting Associations of South Africa
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPHC SA	Custodians of Professional Hunting and Conservation
DAFF	Department of Agriculture, Forestry and Fisheries
DEAT	Department of Environmental Affairs and Tourism
EWT	Endangered Wildlife Trust
GDP	gross domestic product
HRR	hunter recruitment and retention
IUCN	International Union for Conservation of Nature
LIFE	living in a finite environment
LIRDP	Luangwa Integrated Resource Development Project
CBNRM	community-based natural resource management
NGO	non-governmental organisation
NHSA	National Hunting and Shooting Association
PEC	perceived environmental control
PHASA	Professional Hunters Association of South Africa
SA Hunters	South African Hunters and Game Conservation Association
SCI DC	Safari Club International Downunder Chapter
SSAA	Sporting Shooters Association of Australia
TPB	theory of planned behaviour
WWF	World Wildlife Fund

CHAPTER 1 INTRODUCTION

There is little doubt that the future of African wildlife is disturbingly bleak (Bergin, 2015; Roussos, 2019). Biodiversity is threatened by habitat loss, exacerbated by unselective and indiscriminate illegal poaching (Mubalama, 2010). Only a coordinated effort that incorporates a diversity of scientifically sound management practices will reap long-term solutions (Roussos, 2019). There is no quick-fix strategy for the conservation of African wildlife. Success can only be achieved by implementing multiple conservation and management practices that strive for one common goal – the protection of habitat and the survival of wildlife (Roussos, 2019). In the context of this envisaged research different forms of hunting[2] – also referred to as consumptive wildlife tourism – all impinge on the long-term conservation of wildlife. Brown (2019) – Chief Executive Officer of the Namibian Chamber of Environment – put the question whether areas in South Africa will be converted back to grazing lands if hunters stop coming to commercial hunting grounds. Research on consumptive wildlife tourism has become an increasingly contested field (Buckley & Coghlan, 2012). Animal rights activists and environmentalists argue that hunting contributes to the demise of some species (Lovelock, 2008a). Presently, many remote, indigenous or developing communities around the world are strategizing on how to capitalize on potentially lucrative consumptive forms of wildlife tourism. There is mounting pressure from lobby groups in developed nations to ban trophy hunting in Africa (Akama, 2008; Mbaiwa, 2018a). According to Brown (2019, n.p.) "…the regions of Africa that have followed a western urban protectionist approach to wildlife management – countries such as Kenya – have less wildlife today than at any time in their history. By contrast, regions that have created wildlife management systems based on devolved rights over wildlife to local communities and land-owners, together with economic incentives, exemplified by countries such as Namibia and South Africa, have got more wildlife today than at any time in the past 150 years."

This chapter commences with a setting of the scene about different hunting types in various geographical contexts; then continues to formulate the real-world problem the study confronts in a specific regional context; then states the overarching aim and provides the research objectives to ensure that the aim is reached. The research is mainly positioned in the geography discipline but not limited to existing knowledge of geography and its subdisciplines, as it also

[2] Excluding traditional indigenous subsistence hunting.

draws on theories that are developed and applied in other social sciences (human anthropology, environmental psychology, leisure and recreation studies). The research methodology is explained, and the hunting areas are introduced. Last, the structure of the thesis is explained.

1.1 SETTING THE SCENE

In recent years there have been a number of incidents that created renewed interest in the discourse on hunting and the topic has also featured in well-known media outlets such as *National Geographic Magazine* (Paterniti, 2017), *New York Times* (Nuwer, 2017; Stack, 2015), the Conservation Action Trust (Wilson-Spath, 2019), *Africa Geographic* (Chardonnet, 2019) and CNN (Dickman, 2018; Flocken, 2018). One controversial event causing a stir was the shooting of the well-known Zimbabwean lion, Cecil, by the American tourist-hunter Walter Palmer in 2015. Cecil was a collared lion that was part of a long-term research project (Mkono, 2019a; Muposhi *et al.*, 2016). Other events contributing to this renewed interest was the hunt for a super tusker (Pinnock, 2017) and the lifting of bans on the importation of trophies imports into the United States of America (USA) (Batavia *et al.*, 2018; Nuwer, 2018).

Hunting is contentious, polarized and it evokes highly emotional reactions from many different stakeholders such as anti-hunting organizations (for example animal welfare groups), environmentalists and ordinary citizens (Cooney *et al.*, 2017; Lindsey *et al.*, 2016; Van der Merwe, 2018). On the opposing side are hunting supporters who claim that hunting is not as negative as it is portrayed to be and that it can contribute to the conservation of nature and farmland, create jobs and function as a great alternative to conventional mass tourism (Arnett & Southwick, 2015; Baker, 1997b; Naidoo *et al.*, 2016; Van der Merwe, 2018). Although a large body of literature explores these moral assessments, – judgments of what is 'right' or 'wrong' about hunting – "studies that ground such explorations in empirical, systematically analysed, yet contextualised data seem to be missing" (Fischer *et al.*, 2013: 261).

Different forms of hunting are mainly differentiated according to the hunters' motivations to hunt. Hunting for meat – as a sport or recreational activity – is defined as the shooting of wild game with the main objective of using the game meat for consumption. Trophy hunting involves the shooting of wild game (including charismatic species[3] such as lions, elephants, leopards,

[3] Charismatic species are large animals that have a symbolic value or a widespread popular appeal. They are often used to stimulate conservation awareness (Ducarme, Luque & Courchamp, 2013).

buffalos and rhinos), selected according to specific physical attributes such as large horns, tusks, body size or skull length (Challender & Cooney, 2016; International Fund for Animal Welfare, 2016; Lindsey, Roulet & Romañach, 2006; Van der Merwe, Saayman & Rossouw, 2014). Trophy hunting is often criticized as being unethical and contra-productive to nature conservation (Cooney *et al.*, 2017). Hunting for meat is not as heavily criticized as trophy hunting and is generally more acceptable to the public as it is conducted principally to obtain meat for consumption (Fischer *et al.*, 2013). It is often assumed that trophy hunting is an activity in which animals are killed just for the hunters' entertainment (Lindsey, Roulet & Romañach, 2006; Novelli & Humavindu, 2005). Fischer *et al.* (2013, 261) stressed that "debates over hunting should not be simplified as a dispute between hunters and 'anti-hunters', as acceptability of hunting is context specific, dependent on hunting methods, motives, the species hunted, places and participants." The motivations and experiences of hunters have received considerable attention, for example by Decker & Connelly (2016) on the reasons for deer hunting in New York State, by Ebeling-Schuld & Darimont (2017) about hunter satisfaction in Canada and the USA, by Harper *et al.* (2012) concerning the attitudes and motivations of Tennessee deer hunters toward quality deer management, and by Hayslette, Armstrong & Mirarchi (2001) regarding motivations, satisfactions and sociocultural influences of mourning dove hunting in Alabama. According to Mkono (2019b) tourism studies that focus on trophy hunting are rare and often limited to North America and Europe.

Scholars on hunting, especially trophy hunting, claim that hunting can provide enough revenue to make this recreational or sport practice financially valuable and that it can be a useful tool to promote nature conservation (Knezevic, 2009; Lindsey, Alexander *et al.*, 2006; Lindsey, Frank *et al.*, 2006; Loveridge, Reynolds & Milner-Gulland, 2006). Their research also highlights trophy hunting as a useful alternative to photographic ecotourism in areas unsuitable for conventional tourists, especially areas that are unpopular due to a lack of attractive scenery, limited wildlife diversity or inappropriate infrastructure (Crosmary, Côté & Fritz, 2015b; Lindsey, Alexander, *et al.*, 2006).

Hunting quotas and permits are sold for large amounts of money (Damm, 2005; Van der Merwe, Saayman & Rossouw 2014), making the daily expenditure for hunting tourists much higher than that of ordinary ecotourists. Hunting operators and hunting-farm owners state that the money is not only used to cover the costs of the hunting farms (e.g. maintenance of fences, roads and infrastructure), but also for conservation in the form of anti-poaching units and the environmental education of local communities (Challender & Cooney, 2016). Whereas trophy hunting does generate a number of positive effects, it also holds the potential to impact

negatively on certain animal populations and their gene pools or even destroy ecological systems (by removing keystone species) when hunting is not conducted in a sustainable manner (Coltman *et al.*, 2003; International Union for Conservation of Nature, 2012).

Research on hunting – especially on trophy hunting – has focussed on the economic contribution (see Damm, 2005; Munn *et al.*, 2010; Lindsey *et al.*, 2012; Campbell 2013; Van der Merwe, Saaymann & Rossouw, 2014; Fischer *et al.*, 2015), its impact on different species populations (see Coltman *et al.* 2003; Whitman *et al.*, 2004; Loehr *et al.*, 2007; Crosmary, Côté & Fritz 2015b; Loveridge *et al.*,2016; Pigeon *et al.*, 2016), hunters' attitudes and motivations (Daigle, Hrubes & Ajzen, 2002; Darimont, Codding & Hawkes, 2017; Hrubes *et al.*, 2001; Huddleston, 1999; Larson *et al.*, 2014; Radder & Bech-Larsen, 2008; Rossi & Armstrong, 1999) and ethical aspects and morality issues concerning hunting (Cohen, 2014; Dickson, 2009; Fischer *et al.*, 2013; Gunn, 2007; Patterson, 1999; Reo & Whyte, 2012).

This section has given an introduction into the discourse around hunting and presented arguments of hunting opponents and advocates and the state of research on hunting. The following section will provide the problem statement by highlighting the polarized discourse around hunting and reveals why it is important to understand the hunters' perceptions of and attitudes to their recreational hunting activities.

1.2 PROBLEM FORMULATION

A review of relevant literature on hunting established the wide-held perception that hunting is an appropriate wildlife management tool, which could generate incentives for nature conservation if it is conducted in a sustainable manner (Baker, 1997b; Crosmary *et al.*, 2015a; Di Minin, Leader-Williams & Bradshaw, 2016; Lindsey, Alexander, *et al.*, 2006). Contrarily there is the view that trophy hunting is not as sustainable and useful as a conservation tool as claimed by many (Batavia *et al.*, 2018; Murray, 2017). Inevitably, the discourse between hunting advocates and hunting opponents is highly polarized due to a lack of information on trophy hunting's impact on nature conservation (Lindsey, Roulet & Romañach, 2006). Hunting advocates concentrate on the economic benefits of hunting and how it can support financial income of local communities and provide an incentive for nature conservation in general. Conversely, hunting opponents claim that only a minimal fraction of the revenues from the hunting industry flow back into nature conservation and local communities. Hunting opponents direct their argumentation to the ethical aspects of hunting. Lindsey, Roulet and Romañach (2006) investigated the significance of the trophy hunting industry in sub-Saharan Africa

regarding the economic and conservation contributions of this activity, but their data and information is somewhat dated. More recently Van der Merwe, Saayman & Rossouw (2014) produced work on the economic impact of biltong[4] and trophy hunting in three of the four important hunting provinces in South Africa (Limpopo, Northern Cape and Free State[5]).

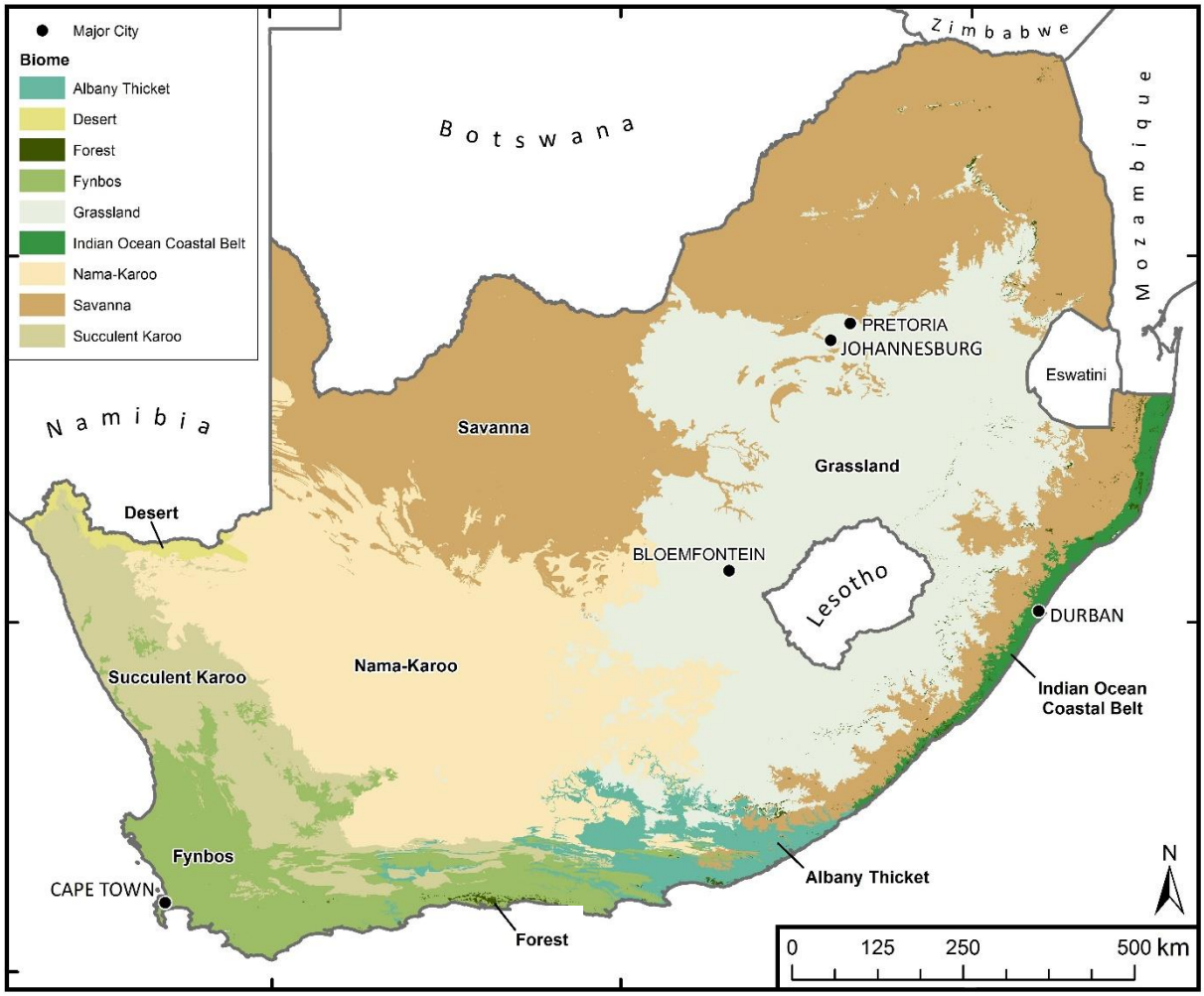
Hunting in South Africa constitutes a very large part of the tourism sector, but there has been a recent decline in international tourist numbers (Nel, 2018). Nel (2018) has assessed the potential risk and collateral damage that a change of perceptions about hunting can have on the broader wildlife economy in South Africa. The research highlighted that game bred intensively and selectively for hunting poses a potentially high risk for increasing the tarnished reputation of the hunting industry. Nel (2018: 18) stresses that "negative perceptions about one sub-sector of the wildlife industry can affect the sustainability of another sub-sector in the same value chain." Any increases in these bad perceptions of one sub-sector can result in reputational damage to the whole hunting industry and consequent socio-economic problems and a loss of the industry's effectiveness as a nature conservation tool due to decreased profits. It is therefore crucial to understand the hunters' perceptions of and attitudes to their recreational hunting activities. The purpose of this study on hunting in South Africa is to make a contribution to information about insights into the environmental, recreational and conservational reasoning of South African hunters.

The following section contextualizes South Africa as a hunting destination (absolute and relative location; biodiversity; economic development).

1.3 THE STUDY AREA

This thesis addresses hunting as a recreational activity and the environmental, recreational and conservational reasoning of South African hunters. South Africa is located on the southern tip of the African continent and borders Namibia, Botswana, Zimbabwe, Mozambique and Eswatini and surrounds the enclaved Lesotho. South Africa has a wide biological diversity owing to its broad range of biomes, namely Fynbos, Desert, Succulent Karoo, Nama-Karoo, Albany Thicket, Savanna, Grassland, Forest and Indian Ocean Coastal Belt (Finch & Meadows, 2019; Patterson & Khosa, 2005) (as shown in Figure 1.1).

[4] In South Africa the sport and recreational hunters are referred to as 'biltong hunters'.
[5] The Eastern Cape is the fourth important hunting province.

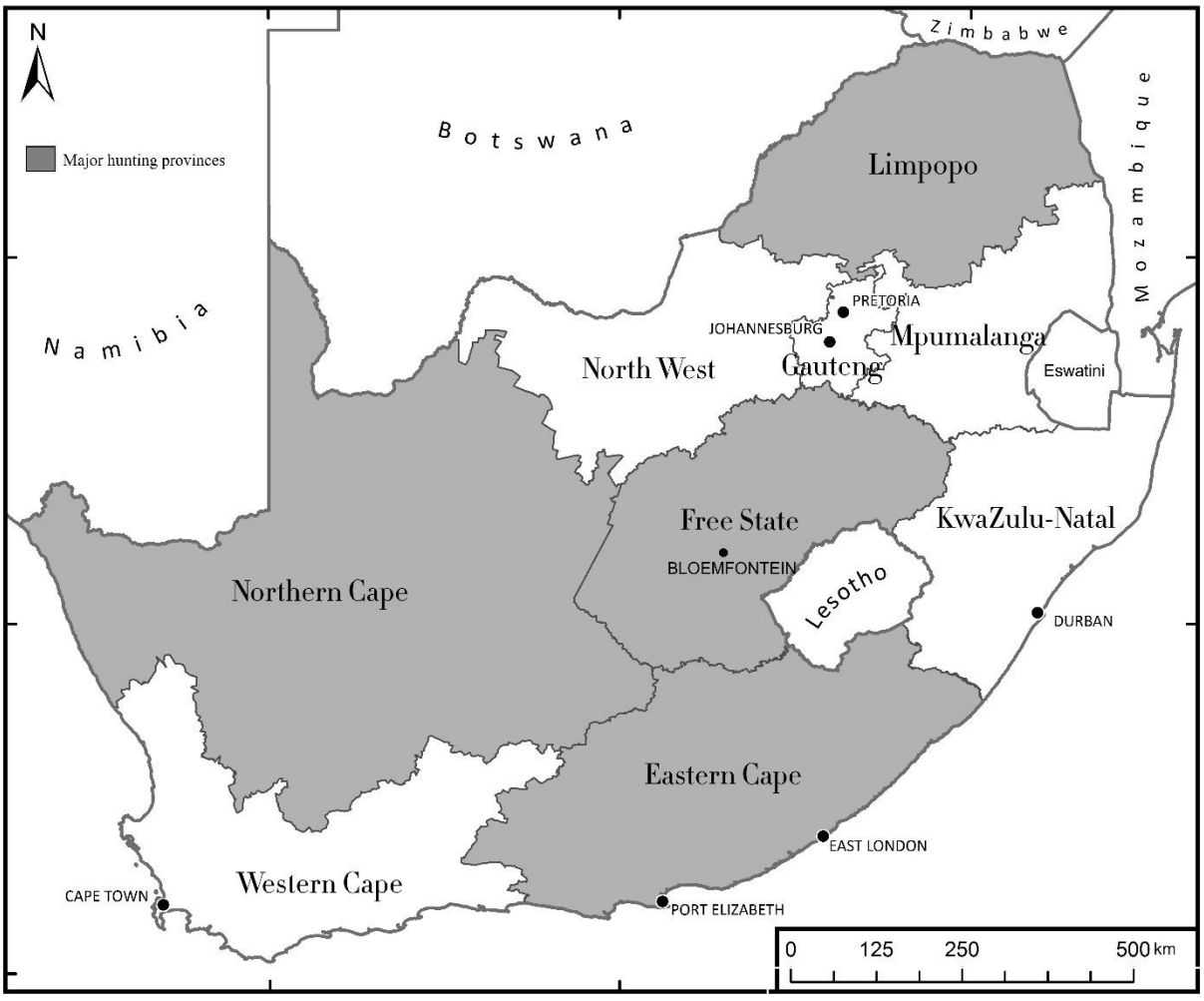


Source: Authors' own production based on Finch & Meadows (2019, p. 58)

Figure 1.1: Biomes in South Africa

The country is divided into nine provinces (Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu-Natal, North West, Gauteng, Mpumalanga and Limpopo) and has three capital cities which share the branches of the government (Pretoria – Executive; Bloemfontein – Judicial; Cape Town – Legislative) (see Figure 1.2). The largest city in the country is Johannesburg in Gauteng. Most hunting in South Africa takes place in rural and remote areas, so providing a tool to offer communities having large numbers of unskilled and unemployed people with much needed socio-economic opportunities (Nel, 2018). The most popular hunting provinces are Limpopo, Northern Cape, Eastern Cape and Free State (Department of Environmental Affairs, 2018; Van der Merwe, Saaymann & Rossouw 2014), owing to their specific vegetation types and other appropriate geographical attributes (see Figure 1.2).

Large parts of South Africa constitute of dryland ecosystems. Wildlife management in these areas is a highly efficient means of generating financial rewards compared to conventional domestic stock farming (R220/ha vs R80/ha), while also providing three times as many employment opportunities (Nel, 2018). Moreover, wildlife-based management is less vulnerable to environmental impacts than conventional livestock (Nel, 2018).



Source: Authors own production

Figure 1.2: The nine provinces of South Africa and the major hunting provinces

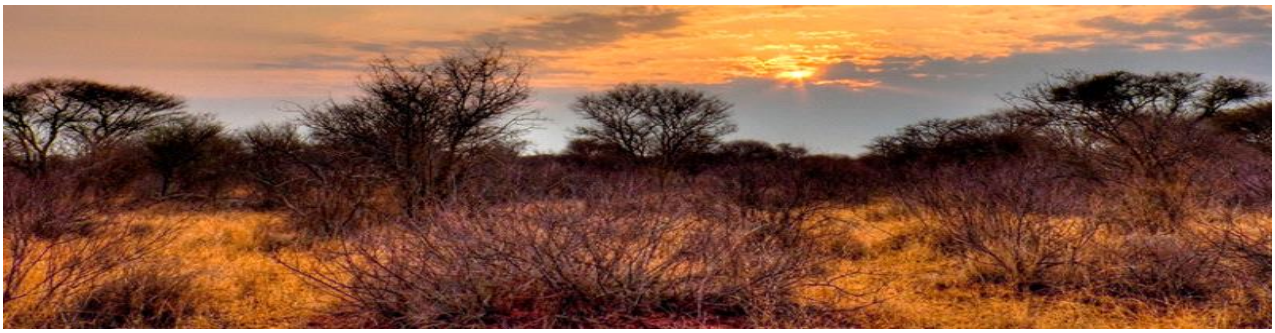
Limpopo is located in northern South Africa where it borders Botswana, Zimbabwe and Mozambique. Its landscapes offer dry deciduous forest and bushveld as well as the characteristic Waterberg (see Figure 1.3a). The province also comprises most of the UNESCO-designated Waterberg Biosphere (Finch & Meadows, 2019; Government of South Africa, 2018; Witkopsafaris.com, 2019). Along with mining and agribusiness tourism plays a significant role in the province's economy (Government of South Africa, 2018; Witkopsafaris.com, 2019). Hunters can expect here a large variety of huntable game such as kudu, impala, warthog, eland,

giraffe, rhino, cape buffalo, hippo, waterbuck, blue wildebeest, tsessebe, eland, sable and many more (Somerbysafaris.com, 2019).

Northern Cape is popular for providing the province's opportunity to hunt in the Kalahari region, a semi-arid area which contains a wide variety of wildlife (see Figure 1.3b). Hunters are able to hunt plains game such as gemsbok, springbok, zebra, kudu and red hartebeest but also lion. Due to its subtropical location the summer months extremely hot and the main hunting season is in May to the end of September (Finch & Meadows, 2019; Government of South Africa, 2018; Africanskyhunting.co.za, 2019c).

The Eastern Cape once boasted teeming wildlife until unrestricted hunting during colonial times caused a serious decline in wildlife numbers. Due to the establishment of national parks, game reserves and game concessions the wildlife numbers were restored and the province is now a popular destination for hunters where a large variety of plains game species and the possibility to hunt dangerous game species exists. Hunters can also hunt the rare blue duiker and have the unique opportunity to hunt caracal with dogs. Hunters can expect a variety of different terrains such as dense forests close to the coast, vast plains as well as mountainous regions (see Figure 1.3c). The province is a popular year-round hunting destination except for the mid-winter months when it can become too cold for hunting. Apart from hunting the province provides other activities that can complement hunting trips such as the Addo Elephant National Park, the Camdeboo National Park and many attractive beaches along the coastline (Finch & Meadows, 2019; Government of South Africa, 2018; Haman & Tuinder, 2012; Smith & Wilson 2002).

Free State is characterized by vast grasslands with scattered hills with views of mountains in the distance. The fertile soils of the high-lying flat plains provide optimal conditions for a large number of plains game. Animals can be hunted either on wide, open areas or in more mountainous terrain (see Figure 1.3d). Along with the plains game, four of the Big Five (elephant, lion, buffalo and white rhino) can be hunted here. Hunting takes place all year around (Finch & Meadows, 2019; Government of South Africa, 2018; Africanskyhunting.co.za, 2019b).



Source: Sheldrake Hunting Safaris (2019)

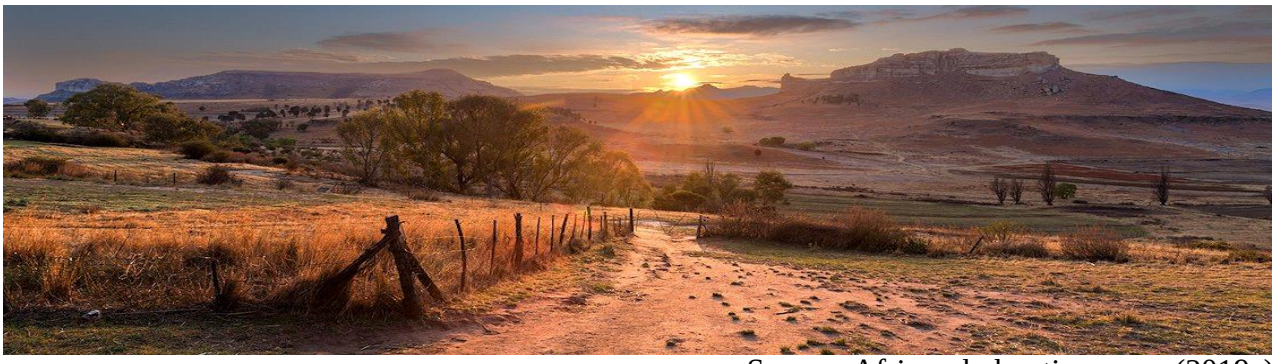
Figure 1.3a: Limpopo landscape

Source: FM Safaris (2019)

Figure 1.3b: Northern Cape landscape

Source: Africanskyhunting.co.za (2019b)

Figure 1.3c: Eastern Cape landscape



Source: Africanskyhunting.co.za (2019c)

Figure 1.3d: Free State landscape

This section has shown that South Africa is a country with a large biodiversity and that the most popular hunting provinces are Limpopo, Northern Cape, Eastern Cape and Free State. Moreover, it has shown that wildlife management is an efficient means of generating financial rewards and providing employment opportunities. The following section will state the aim and objectives of this thesis.

1.4 AIM AND OBJECTIVES

The **aim** of this dissertation is to assess the geography (the what, where and the why) of meat and trophy hunting in South Africa as well as the hunters' environmental, recreational and conservational perceptions of and attitudes to their hunting activities and their contributions to wildlife conservation in general. To achieve this aim, six **objectives** are pursued:

1. Review the appropriate international literature on the history of hunting; the theories on human-environment relationships and pro-environmental behaviour, as well as the constructs and concepts about hunters' motivations to hunt; available case studies on consumptive wildlife tourism and the different types of hunting; and the link between hunting and conservation.
2. Review literature relevant to assessing the larger picture of meat hunting and trophy hunting in South Africa.
3. Create demographic profiles of the local meat hunter and trophy hunter communities in South Africa.
4. Question hunters in which district municipalities they live and in which they hunt so as to map the geography of hunters and hunting areas in South Africa.
5. Assess the environmental, recreational and conservational reasoning behind South African hunters' regarding their hunting preferences, decisions and activities.
6. Assess the hunters' perceptions of uploading hunting photographs on social media.

The next section defines the research process that was followed in this thesis.

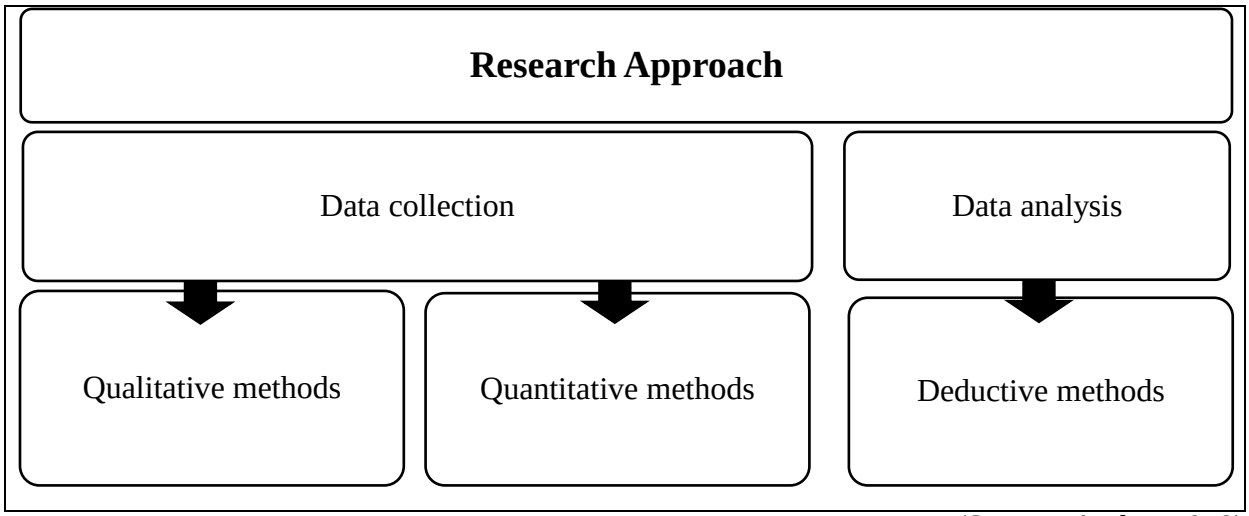
1.5 THE RESEARCH PROCESS

Before delving deeper into the research methods used in this research, it is important to affirm the basics of how the scientific research process operates. Scientific research can take place either on a theoretical level or on an empirical level. The theoretical level involves abstract concepts concerning a natural or social phenomenon and the relationships between different concepts or theories (Weber, Garcia-Marmelejo & Reyna-Hurtado, 2006). Research on the empirical level revolves around testing these theoretical concepts and relationships in order to understand how they fit together with observations made of our reality and further to improve existing theories (Bhattacherjee, 2012; Lumenlearning.com, 2019).

This research employs empirical methods to explain behaviour at the level of the individual – micro-level – by testing theoretical concepts and relationships around environmental knowledge, pro-environmental behaviour and motivations for hunting in order to see how the results of a survey resonate with already existing theoretical knowledge of the pro-environmental behaviour, leisure and recreational preferences and conservation reasoning of hunters. Scientific research consists of a continuous going back and forth between theory and observations and it can be explained by two research approaches: inductive and deductive. Research is inductive (theory building) if the researcher creates new concepts, patterns and ideas from the observed data. When existing knowledge and theories are used to analyse concepts and patterns found in the gathered data and possibly to refine, extend or improve these existing theories, the approach is deductive (theory testing) (Bhattacherjee, 2012). The present work follows a deductive approach.

The research involves descriptive and explanatory components. Descriptive research is conducting of careful observations and detailed documentation of a specific field of interest (Bhattacherjee, 2012; Lambert & Lambert, 2013). In order to precisely describe a phenomenon, it is important to choose a scientific research method that can be replicable so making descriptive research more reliable than casual observations (Bhattacherjee, 2012). Explanatory research aims to explain the observed phenomenon or field of interest in depth. It can aid in understanding specific explanations behind actions by identifying, comparing and evaluating specific factors within the observed phenomenon (Bhattacherjee, 2012; Stebbins, 1938). This study is based both on descriptive research as it aims to explore and assess the geography – the what, where and when – of the hunting industry in South Africa as well as an explanatory research as it aims to understand the environmental, recreational and conservational reasoning – the why and how – behind it.

This study on hunters in South Africa reveals elements of a mixed-methods approach. “Mixed methods research acknowledges that all methods have inherent biases and weaknesses; that using a mixed method approach increases the likelihood that the sum of the data collected will be richer, more meaningful, and ultimately more useful in answering the research questions” (Johnson, Onwuegbuzie & Turner, 2007: 121). To unravel the larger picture and discourse on different types of hunting in South Africa and to try to make sense from the more than 1400 responses from hunters (on the geographical aspects of their hunt; their motives on why and how they hunt; their attitudes to the environment and ecosystems in general; and their views on intensively and purposely bred indigenous game species in particular as well as on how they feel about posting images on social media after their hunting success) a mixed-methods approach was followed to collect and analyse data and information (see Figure 1.4). Primary information was collected from hunters by an online questionnaire survey and secondary data and information were distilled from relevant peer-reviewed articles, economic and business studies and reports, the South African legislative framework as well as economic reviews by experts that were published in the popular media.



(Source: Author 2019)

Figure 1.4: Components of mixed-methods research

The following subsections of 1.5 provide the research design of the study and describe the process of data collection as well as the survey procedures. Furthermore, the process of data capturing and analysis is described.

1.5.1 Research design

Figure 1.5 illustrates the five-phase research design of the study. In Phase 1 the research problem was identified and formulated to direct the study aim and objectives. In Phase 2 the conceptual foundation was laid to get an understanding of human-animal relationships and pro-environmental behaviour. It involved topics such as consumptive tourism, ecotourism, ethical hunting, and meat and trophy hunting. The nature of the study was described. In Phase 3 a survey was conducted to examine the hunting phenomenon in South Africa. Phase 4 covers the methods used in the research and contains the mixed-method research approach. The survey data was analysed, the results were presented graphically and then discussed. In Phase 5 the objectives were revisited, the main findings synthesized, limitations discussed and recommendations were made.

L I T E R A T U R E R E V I E W S	**Phase 1** Rationale	**Chapter 1**	**Problem statement** Hunting and trophy hunting are contentious topics and the discourses around them are highly emotional and exacerbated by views of the developed North vs conservationists from Africa. How south African hunters think about recreational hunting and its connection to nature conservation call for investigation.
			Aim Assess the geography (the what, where and the why) of meat and trophy hunting in South Africa as well as the hunters' perceptions of and attitudes to their recreational hunting activities and their contributions to wildlife conservation in general.
			Study area: South Africa's hunting areas
	Phase 2 Laying the foundation	**Chapter 2**	Conceptual understanding of human-animal relationships and pro-environmental behaviour Consumptive tourism, eco-tourism, ethical hunting, meat hunting, trophy hunting
	Phase 3 Contextualization of hunting in South Africa	**Chapter 3**	Examining the hunting phenomenon in South Africa Recreational hunting; development; economic contribution in SA; combining recreational hunting and photographic tourism; regulations of recreational hunting
	Phase 4 Data collection Data cleaning Data capturing Data analysis Data presentation Discussion	**Chapter 4**	**Methods** • Geography of hunting • Online questionnaire survey → Maps to portray the geography of hunting (ArcMap) • Economic contribution of hunting • Secondary data → Quantitative data • Reasoning of hunters • Questionnaire and existing literature → Qualitative information on hunters perceptions and attitudes (ANOVA and statistical packages)
	Phase 5 Synthesis	**Chapter 5**	Revisit of the aim and objectives ↓ Synthesis and summary of main findings ↓ Limitations of the study ↓ Recommendations for further research

Figure 1.5. Research design for assessing the geography of hunting in South Africa and the perceptions and attitudes of hunters.

Section 1.5.2 describes the data collection process.

1.5.2 Data collection

A well-known and widely used method to collect data is by means of a questionnaire. It is a suitable strategy for obtaining answers by questioning (Blaxter, 2010). Questionnaires help to gather descriptive information and to investigate the relationship between different factors. Questionnaires are a popular and tested means of obtaining environmental views of large groups of subjects. A questionnaire survey was thus the instrument of choice in this study. The questions posed in the questionnaire of this study were directed by the works of three scholars. The questionnaire developed by Lindsey, Alexander, *et al.* (2006) assessed the hunting preferences of USA-based hunting clients and hunting operators; Radder & Bech-Larsen's (2008) research instrument on South African hunters' motivations and values was helpful; as was Ljung *et al.*'s (2012) questionnaire on game meat consumption and the attitudes to hunting of Swedish residents. This study's questionnaire elicited socio-demographic information about the respondents, their attitudes to and knowledge of human-environment relationships and on the different forms of hunting in the South African context as well as their self-reported pro-environmental intentions and behaviour. The draft questionnaire based on the afore mentioned studies was pilot tested, revised and distributed to members of hunting associations. The following two subsections describe the procedures of conducting the survey, and the capturing and analysis of the acquired data.

1.5.3 The survey procedures

The hunting sector in South Africa consists of approximately 300 000 hunters of whom 75 000 (25%) belong to 28 accredited associations (Nel, 2018). The respondents of this study were recruited through two South African hunting associations, namely South African Hunters and Game Conservation Association (SA Hunters) and Professional Hunters' Association of South Africa (PHASA). SA Hunters was chosen as it has the largest membership and PHASA because they focus exclusively on professional hunters. SA Hunters has a membership of over 43 000 in South Africa (Nel, 2018) whereas PHASA has about 1000 members (Louwrens, 2019, pers com).

The two South African hunting associations were contacted by email and asked if they are willing to support the study by distributing an online questionnaire in their newsletters (which are send out by email) as well as their websites. Both the associations agreed on the condition that they could make suggestions on questionnaire content and request changes to the questionnaire content before it was sent out to their members. Changes were made regarding

wording, accuracy and clarity. Following a pilot test (5 participants) some necessary changes were made. The final questionnaire, the introductory letter and the consent form were submitted to and approved by the Ethics Committee of Stellenbosch University.

The questionnaire was designed and made available for the respondents online. The recipients were informed that participation in the survey was voluntary and anonymous and that they can stop participating at any time. The questionnaire was divided into five sections and began with a short introduction, explaining the purpose of the study. The sections contain a total of 31 questions. Before the respondents were able to begin with the questionnaire, they had to confirm that they had read and understood the introductory information provided and that they agree to take part in the survey. The questionnaire is appended as Appendix A.

The purpose of the questionnaire was to elicit information about the hunters' experiences and hunting habits as well as their perceptions of the link between hunting and nature conservation. The five sections deal with (1) the respondents' expertise and preferences on hunting, (2) their perceptions of issues regarding human-environment relationships as well as the connection between nature conservation; (3) the hunting for meat and (4) trophy hunting; and lastly the respondents' demographic information (5).

The dichotomous questions and multiple-choice questions facilitated the gathering of information to address the fourth objective of the study, namely to create a demographic profile for the local recreational and trophy hunter community in South Africa.

To acquire information to achieve the fifth objective (which aims to determine the environmental, recreational and conservational reasoning of hunters regarding hunting in general and trophy hunting in particular) Likert-type scales were used. These Likert-type scales are used in questionnaires and surveys, and they aid the measuring of attitudes, for example opinions and preferences (Göb, McCollin & Ramalhoto, 2007). The type of questions contained various statements and respondents had to choose one of five Likert-scale items to rate their level of agreement with the statement (Strongly disagree to strongly agree), the level of importance (not important at all to very important) or to indicate frequencies (never to always). The methods of capturing and analysing all the information gathered are described next.

1.5.4 Data capturing and analysis

The data collection began after obtaining the approval of the Ethics Committee of Stellenbosch University and comprised two phases. The questionnaire was made available to potential respondents during July, August and September 2018. When only 217 responses had been received in the first two weeks of the survey, a second invitation to participate was emailed and resulted in a total of 1409 usable questionnaires being returned.

It is important to give more attention to the representativeness of the survey. There are 300 000 hunters in South Africa of which about 75 000 are registered as members of South African hunting associations (Nel, 2018). The questionnaire survey that was distributed via two hunting associations newsletters and websites can be viewed as a homogenous purposive sampling method. The two hunting associations that supported this research have a total of 44 000 members. Purposive sampling, also known as judgemental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their own judgement when choosing members of the population to participate in their study (Etikan, Musa & Alkassim, 2016). The homogenous purposive sampling is used in a case where a group of respondents share a characteristic or set of characteristics – in this case hunters that were members of two hunting associations in South Africa in 2018. Although the 1409 respondents constitute only 3.20% of all hunters that belong to the part-taking hunting associations – the use of a 'sample size calculator' revealed that at a confidence level of 95% (with a confidence level of 5%) 381 responses are needed to be representative for a population size of 44 000 members of the two hunting associations (Creative Research Systems, 2019). A representative sample "…is a group that closely matches the characteristics of its population as a whole. In other words, the sample is a fairly accurate reflection of the population from which the sample is drawn" (Cherry, 2019).

Since the questionnaire was administered using an online service, the quantitative and qualitative data were automatically collected in a Microsoft Excel database. When the survey was closed to access by respondents the database was cleaned and prepared for further processing. The variables mean scores were compared with the help of the analysis of variance (ANOVA) which is a collection of statistical models for analysing the differences among group means in a specific sample (Scheffé, 1999). Statistical exercises with ANOVA aided in determining the relationships between different variables. Much of the data stems from Likert-scale questions where the answers were converted to percentages which were portrayed graphically in horizontal bar charts and reported descriptively. The statistical and spatial analyses produced results presented in graphs and maps.

The questionnaire contained some open-ended questions which required respondents to name the district municipality in which they originate (Question 28), country in which they hunt the most (Question 1), the district municipality where they hunted most during the last year along with the number and type of species they hunted (Question 8).

The answers to Question 8 and 28 had to be cleaned manually as a high number of the respondents (757 respondents) did not indicate the district municipality name (from where they originate) but rather a province, city or area. Where enough indications existed the name of the district municipality was deduced and inserted manually. If no information was available or if respondents only indicated a province, no answer was recorded. To assess the geographical information provided in answers about the municipal origin of hunters and their hunting destinations, the data were cleaned in Excel and a total of 657 records was available for further analysis. All other processes (digitizing of the biomes, adding the cities and mapping the data) was done in ArcMap 10.6.1.

The two other open-ended questions assessed the opinions about hunters who post photographs on social media of themselves and the hunted animal (Question 15) as well as their explanation for approving or disapproving of trophy hunting (Question 22). For the analysis of these answers an inductive approach was followed. According to Thomas (2006) inductive analysis is conducted through a detailed reading of raw data to create concepts, themes or models through the interpretation of the raw data. The inductive approach enables the researcher to make findings through "…frequent, dominant, or significant themes inherent in raw data, without the restraints imposed by structured methodologies" (Thomas, 2006: 238). The answers were analysed by studying (reading and interpreting) the qualitative data to identify specific themes and categories. This allowed overarching key themes to emerge which were described in detail using the information provided by the respondents. The general inductive approach was chosen as it helps to understand the core arguments and ideas of the respondents, and it gives the researcher themes and categories that are most relevant to the research objective (Thomas, 2006).

The subsections of 1.5 have described the different components of the research process in providing an overview of the research design, the data collection process, the survey procedures as well as the process of data capturing and analysis. The following section provides explanation of how the study can be placed in the discipline of geography.

1.6 DISCIPLINARY POSITIONING OF THE STUDY

To gain insights into the geography (the what, where and the why) of hunting in South Africa, and the hunters' thinking about their recreational activities, their preferred hunting landscapes and the species they like to hunt, it required the researcher to draw from the resources of a range of geography sub-disciplines. For understanding the larger picture and the various contexts of the hunting phenomenon in South Africa, the existing knowledge pool of physical geography (geomorphology – landscapes; biogeography – ecosystems, biodiversity); and human geography (tourism geography – recreation and leisure activities in the past and present, the tourism system and tourism products; economic geography – wildlife farming, farm-level economic diversification, local and regional economies) must be integrated with the new empirical information and data acquired by the questionnaire survey of South African hunters in 2018. This study concerns the relationships and interactions between the hunters and their environmental (natural and human-made) contexts. Most of the geographical origins of the hunters in this study are their residences which are located in certain municipalities (tourist-generating regions) in South Africa and the hunters have to travel to hunting farms or private nature reserves (tourist destinations) to practice their recreational activities or to purchase wildlife tourism products. Hunters make use of different modes of transport to reach these destinations. At these destinations the physical settings (Tropical Savanna, Kalahari bushveld, Karoo – mountainous or wide-open flat valleys, etc.) are part of the primary attraction value of these spaces and these hunting grounds boast specific ecosystems that potentially host a variety of wildlife that is available for hunting purposes. The hunting destinations provide appropriate accommodation facilities (from rustic to luxury), catering services and other ancillary facilities and services. The hunting farms are serviced by a variety of staff (professional hunters, wildlife trackers, chefs, bar staff and cleaners). To ensure special hunting experiences it is necessary to provide a total product (hunting opportunity, accommodation, catering services, entertainment in the evenings around a campfire, slaughtering services, biltong- and salami-making facilities, etc.). This research is also interested in the role the recreational activities and tourism products play in the diversification of farm-level economies as well as the local and regional economies. In the context of pro- and anti-hunting discourses this research is particularly interested in the socio-demographics of the hunters and their attitudes, knowledge and behaviour regarding environmental issues, declining natural resources, nature conservation, wildlife in general, special wildlife where animal colour has been genetically modified, post-hunting photographs in general and the sharing of photographs on social media.

1.7 THE THESIS STRUCTURE

The thesis is divided into five chapters. **Chapter 1** introduces the research topic and gives the problem formulation. The aim and objectives are set out. The research design is portrayed graphically, and a short description of the study area is given. The chapter concludes with a positioning of the thesis within the discipline of geography.

Chapter 2 gives a literature review, based on an extensive literature study (of various disciplinary fields) of the different forms of hunting. The early history of hunting and its different forms is explored before reporting on hunting as a form of tourism is done. An assessment is made of the ways hunting and conservation can be combined and an evaluation is done of arguments for and against hunting with a special focus on trophy hunting. The literature on the history of recreational hunting in Europe, the USA, Australia and Africa is reviewed and the public discourse on recreational hunting, and the ethics and morality of hunting are outlined. Frameworks for gaining insight into human-environment relationships are presented.

Chapter 3 covers South Africa as a hunting destination and evaluates the development of the recreational hunting industry in the country, its economic contributions, its potential to be combined with traditional photographic tourism and the regulations governing recreational hunting in South Africa. **Chapter 4** presents the results of the questionnaire survey and discusses the findings. **Chapter 5** revisits the objectives, synthesizes the findings draws conclusions and makes recommendations.

The next chapter moves to reviews of appropriate international literature on the different types of hunting, the history of recreational hunting in different contexts, human-environment relationships and the motives and attitudes of hunters.

CHAPTER 2 HUNTING: A LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter the theoretical foundations of hunting are explored on the basis of thorough literature reviews. The early history of hunting is examined, hunting is defined and different forms of hunting, such as hunting for recreation and meat and hunting for recreation and trophies, are outlined. Attention is given to how hunting functions as a form of consumptive tourism and the arguments speaking for and against hunting as a conservation tool are introduced. The history of recreational hunting is explored using Europe, the USA, Australia and Africa as examples. The public discourse on recreational hunting and the ethics surrounding are discussed. Theories and frameworks that facilitate gaining of insights into human-environment relationships, namely the multi-satisfaction approach, place attachment, sense of place, the theory of planned behaviour and the value-belief norm theory are reviewed.

2.2 THE EARLY HISTORY OF HUNTING

Hunting has been an integral part of human societies for thousands of years (Adams, 2009; Arnett & Southwick, 2015; Leader-Williams, 2009; Muposhi *et al.*, 2016; Speth *et al.*, 2010). Archaeological evidence suggests that hunting has been part of human societies for over 2.5 million years, as stone tools prove that humans and their precursors have been hunters and gatherers for most of their evolutionary history (Arnett & Southwick, 2015). Damm (2015) avers that hunting is one of the oldest human activities and that hunting might have been an activity which influenced the evolution of humankind.

The advent of hunting marks an important step in the development of the biological history and evolution of humans and it is at the same time a cultural act (Batavia *et al.*, 2018). Hunting played an important role as an educational tool and was used by men as a way to achieve prominence and promotion for thousands of years (Sokos *et al.*, 2014). In order to achieve high prestige or social status within hunter-gatherer societies, men needed to be skilled hunters (Gurven & Von Rueden 2010).

According to Arnett & Southwick (2015), an evaluation of the social aspects within ancient hunter-gatherer societies may provide insight into contemporary hunting and societal views. One example of this is the ancient Hellenic culture which existed from the eight century BC to approximately AD 600. This culture is one of the first in which the turn from subsistence

hunting toward hunting as a symbolic activity can be observed. In Hellenic culture hunting was used for edification and to test skills, and it was also a recreational activity. Hunting was also conducted by women (Sokos *et al.*, 2014). Hellenic culture's edification did not only focus on hunting skills, but also on the understanding of nature and the adherence to specific ethics. They can therefore be seen as one of the first hunting societies that implemented some form of fair-chase principles (Sokos *et al.*, 2014). According to Ober (2010) the Hellenes had a high standard of living, comparable to the economies of Holland and England in the fifteenth and eighteenth centuries. Due to this high standard of living, hunting lost its role as a primarily utilitarian activity when food sources, other than those from hunting, were being used (Hamilakis, 2003; Sokos *et al.*, 2014).

Hunting has been an integral part of societies for thousands of years so that recreational hunting is not a new phenomenon. Whereas hunting was initially used as means of obtaining food, it changed and developed into a recreational and competitive activity (Speth *et al.*, 2010).

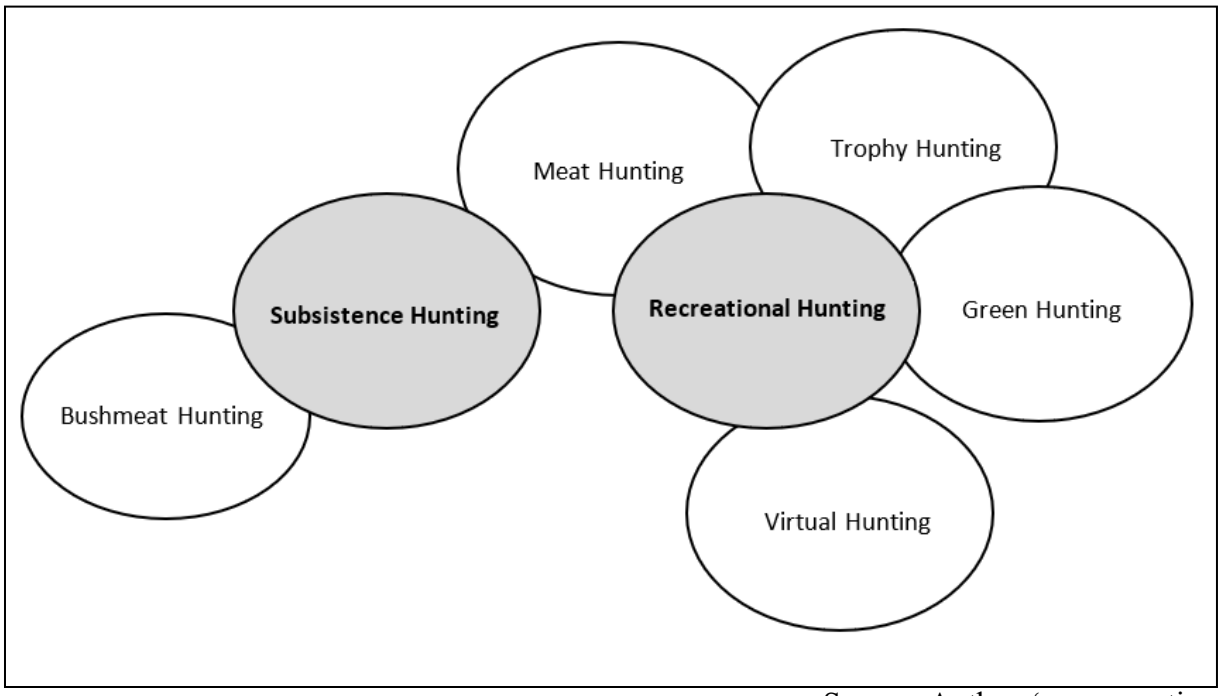
Sophisticated rifles, specialized hunting vehicles and other modern tracking devices have simplified hunting enormously, with the result that over the past decades various new forms of hunting have evolved. Subsistence and recreational hunting are occurring in most places in the world where they form integral parts of many cultures. Moreover, recreational hunting has developed into a form of tourism and land management in many countries around the world. The following section will provide a deeper insight into different types of hunting. The focus will be on meat- and trophy hunting.

2.3 DIFFERENT FORMS OF HUNTING

Hunting can be divided simply into subsistence hunting and recreational hunting. The latter can be subdivided into hunting for recreation and meat and hunting for recreation and sport (Fischer *et al.*, 2013). In this thesis, recreational hunting is divided into two forms, namely *meat hunting* and *trophy hunting* (see Figure 2.1). The terms trophy-, safari- and sport hunting are used interchangeably.

The main difference between these different types of hunting is primarily motivational. Subsistence hunting is mostly conducted by local indigenous people and their motivation is to obtain meat. Another traditional motivation is the use of body parts for cultural needs or as traditional medicines (Booth, 2010; Condon, Collings & Wenzel, 2017; DeGeorges & Reilly, 2009; Loveridge, Reynolds & Miler-Gulland, 2006). One form of subsistence hunting is

bushmeat hunting. Hunted bushmeat or specific animal parts (such as tusks or horns) are consumed or sold to generate income. The hunting and selling of bushmeat is a vital survival strategy of many people in rural areas (Lindsey, Romañach, Matema, *et al.*, 2011). It is often conducted in the absence of other income opportunities and due to poverty and unemployment. Other contributing factors are the exclusion of communities from other wildlife-based land uses or a lack of other protein sources (Lindsey, Romañach, Matema, *et al.*, 2011; Lindsey, Romañach, Tambling *et al.*, 2011).



Source: Authors‘ own creation

Figure 2.1: Venn diagram of different hunting types

Meat hunting has to be differentiated from subsistence hunting as it is commercialized and regulated, while subsistence hunting is usually conducted to supplement protein intake or as a ritual, ceremony or for medical purposes (Radder & Bech-Larsen, 2008). Meat hunting is usually conducted by residents of the country in which the hunt takes place and therefore falls under domestic tourism, provided that the hunter hunts at a place other than his home for a period of longer than one day (Higginbottom, 2005; Lovelock, 2008b). These hunters combine the experience of the hunt with the objective to obtain meat from wildlife. For some of the hunters, this form of hunting is an important cultural practice. Even though some of the hunters may keep the horns or skins of the shot animals, the main objective is not to obtain a trophy (Booth, 2010). Because it is difficult to categorize this form of hunting, it can be considered as a mix of subsistence hunting and recreational hunting. Wild game is hunted for its meat, but the recreational aspects of the hunt also play an important role. At the same time, the hunter usually

prefers bigger and healthier animals as opposed to smaller animals, so characterizing it as trophy hunting. Even though biltong hunting could also be classified under subsistence hunting, it is not necessary for the biltong hunter to hunt to survive – as opposed to the case for subsistence hunters – and therefore it will be regarded as recreational hunting in this study.

Sport hunting is considered to be a leisure activity in which the thrill of the hunt itself (Loveridge, Reynolds & Milner-Gulland, 2006) as well as the collection of a part of the animal (such as tusks, horns or skin) as a trophy (Muposhi *et al.*, 2016) are the main motivations. Trophy hunting is mostly undertaken by foreign hunters who usually make use of a hunting operator to design their hunt and to create a hunting package (Booth, 2010). This hunting form involves the hunting of iconic species such as elephant, lion, leopard and buffalo. These hunts are usually conducted under the supervision of a professional hunter and they are strictly regulated by state-set quotas (Booth, 2010). Sport hunts can also only take place if the hunter obtains a permit to hunt a specific species in a specific area. Sport hunting is not limited to big and iconic animal species, as all kinds of animals are hunted for trophy purposes. The main criterion is 'trophy-worthy' physical attributes, such as big horns, tusks or body size. The term sport hunting was introduced to distinguish the commercial hunter from the recreational hunter as commercial hunters were responsible for over-hunting and consequently the eradication of wild game at the end of the nineteenth century. It was termed 'sport' hunting to symbolize "fair play, style, dash and moderation" (Damm, 2008: 7).

Another difference between meat and trophy hunters is that meat hunters usually hunt closer to their homes, whereas trophy hunters are willing to travel much farther to shoot a trophy animal (Booth, 2010). The necessity to travel makes trophy hunting a very popular and fashionable activity for certain members of upper-class societies, usually from western Europe and the USA (Novelli & Humavindu, 2005). It is difficult to draw a clean line between the different forms of hunting as each form often includes elements of the other forms (Loveridge, Reynolds & Milner-Gulland, 2006). Sport hunters, for example are willing to pay for their hunts, which adds a commercial element. Some sport hunters do not associate their hunts with personal consumption (e.g. trophy hunters), whereas others refuse to shoot more than they can consume. The hunting forms are usually not only aimed at consumption but they also have cultural and spiritual connections (Loveridge, Reynolds & Milner-Gulland, 2006).

Another form of recreational hunting is green hunting in which people pay the same amount they would pay for a conventional hunt, but they use tranquilizers instead of bullets. The animal then gets radio collared, checked by a veterinarian and casts of the animal are taken before the

animal wakes up (Greyling, McCay & Douglas-Hamilton, 2003; Lovelock, 2008b; Patterson & Khosa, 2005). Virtual hunting allows hunters to shoot animals through remote-controlled rifles. This practice has been declared illegal in 35 States of the USA (Cohen, 2014). The next section assesses the difference between non-consumptive ecotourism and consumptive wildlife tourism and focusses on hunting specifically.

2.4 HUNTING AS A FORM OF CONSUMPTIVE TOURISM

In a world justifiably concerned about limited natural resources and a growing human footprint, one of the ways in which sustainable development ought to be achieved is through tourism (Novelli, Barnes & Humavindu, 2006). Not every form of tourism is considered to have positive impacts on the environment. Therefore, the most sought-after alternative is ecotourism (Krüger, 2005; Meletis & Campbell, 2007; Novelli, Barnes & Humavindu, 2006; Sharpley, 2006). Ecotourism, a concept that emerged the 1990s, is a form of tourism which concentrates on the environment while also intending to deliver socio-economic benefits (Krüger, 2005; Novelli, Barnes & Humavindu, 2006).

One field within ecotourism is wildlife tourism which can simultaneously provide economic opportunities for landowners and local communities while supporting nature conservation (Higginbottom, 2005; Munn *et al.*, 2010). Wildlife tourism includes a number of different activities ranging from whale watching, scuba diving on a coral reef, wildlife safaris in Africa, zoo visits or even hunting trips (Higginbottom, 2005). Higginbottom (2005: 2) has described wildlife tourism as "…tourism based on encounters with non-domesticated (non-human) animals. These encounters can occur in either the animals' natural environment or in captivity. It includes activities historically classified as 'non-consumptive', such as viewing, photography and feeding, as well as those that involve killing or capturing animals, particularly hunting (in the terrestrial environment) and recreational fishing (in the aquatic environment)." Consumptive tourism entails the hunting of animals or the removal and use of some parts of their bodies. Non-consumptive tourism does not make direct use of the animals, rather centering on less intrusive activities such as photography or bird watching. It is difficult to distinguish between consumptive and non-consumptive tourism, because badly managed wildife watching can, for example, have a negative effect on wildlife, while well-managed hunting can be ecologically sustainable (Higginbottom, 2005).

Consumptive wildlife tourism includes recreational hunting, shooting and sport fishing and has been defined as "…a form of leisure travel undertaken for the purpose of hunting or shooting

game animals, or fishing for sports, either in natural sites or in areas created for these purposes" (Lovelock, 2008b: 4). Novelli, Barnes & Humavindu (2006) style consumptive eco-tourism as a two-sided coin. On the one side are animal rights activists and conservationists who claim that hunting has a fatal impact on animal populations, that it contributes to the demise of some species and that it is often conducted unethically. On the obverse of the coin are the remote, indigenous and often developing communities worldwide who see a huge potential in capitalizing 'their' wildlife and in using it as an alternative land-use form (Novelli, Barnes & Humavindu, 2006).

Over the past 100 years there has been an increasing growth in the number of tourists who want to experience and interact with the natural environment so that the wildlife tourism sector has experienced marked growth worldwide. Wildlife-based tourism has become a major source of foreign exchange in several countries, with African countries receiving the most attention (Van der Merwe, Saayman & Rossouw, 2014). Even though animals have been hunted for food for thousands of years, is it a quite recent phenomenon that people visit and observe wildlife as a recreational activity (Novelli, Barnes & Humavindu, 2006). During the mid-1960s, wildlife-based tourism saw a boom in tourist numbers as the general interest in nature and wildlife conservation increased and travel costs declined. Unspoiled and remote areas became more accessible and an increase in tourist numbers from the West exacerbated the implementation of the wildlife tourism sector, especially in Africa (Novelli, Barnes & Humavindu, 2006; Buckley & Mossaz, 2018).

Expansion of industrial agricultural areas has caused natural habitats to shrink and wildlife resources to diminish so that photographic tourists and hunters must travel farther to experience and hunt wild animals (Bauer & Herr, 2005; Komppula & Gardner, 2013). Although hunting and fishing are usually broadly classified as recreational activities, hunters are seen as tourists as they travel to destinations and make use of certain services (such as hunting outfitters, tour guides and hunting farms) (Higginbottom, 2005). It is important to note that not every hunter can be automatically considered a tourist (Lovelock, 2008b). Tourists can be defined variously but here the definition by Lovelock (2008b: 6) is used, namely "consumptive wildlife tourists are taken to be those that travel to fish, shoot or hunt in a region other than their own." According to Novelli, Barnes & Humavindu (2006) consumptive tourism can be seen as a form of ecotourism and may be more beneficial to the environment than non-consumptive tourism (e.g. photographic tourism) as it provides a "low-volume and high-value" alternative to conventional eco-tourism (Novelli *et al.*, 2006: 62). Consumptive tourism can also be used as a management and conservation strategy. Consumptive wildlife tourism can also be considered

as a form of cultural tourism, as there is usually a strong cultural exchange between hunters and hosts (Lovelock, 2008b). Furthermore, it is also regarded to be a form of heritage tourism as some forms of consumptive wildlife tourism are aimed at recreating a feeling of the past, for example through recreating the first hunts of the first settlers in Africa (Lovelock, 2008b). Sometimes hunters use bow and arrows or black powder rifles which are ancient hunting techniques that have evolved into highly specialized weapons (Lovelock, 2008b). Consumptive wildlife tourism is culturally embedded and can be looked at from heritage, adventure and ecotourism perspectives. The motivations of these hunters are diverse and differ from person to person, and it is seldom that only one motivation drives the hunter (Radder, 2005). The motivation in both forms, non-consumptive as well as consumptive tourism, is rooted in various historical backgrounds and specific interests.

In section 2.5 and its following subsections the connection between hunting and nature conservation will be highlighted. To achieve that, positive arguments for trophy hunting as well as arguments against it will be presented.

2.5 FRIENDS OR FOES? CONNECTING HUNTING AND CONSERVATION

Hunting – especially trophy hunting – is deemed to have the ability of either enhancing or limiting conservation efforts and is also able to have a significant impact on the sustainability of the hunting area (Crosmary, Côté & Fritz, 2015b; Damm, 2008; Di Minin, Leader-Williams & Bradshaw, 2016; International Union for Conservation of Nature, 2012; Lindsey, Roulet & Romañach, 2006). This section aims to review the enhancing factors that can make hunting a sustainable form of land-use yet having limitations. Although the chapter concentrates on trophy hunting, some arguments are applicable to recreational meat hunting too.

2.5.1 Positive arguments for trophy hunting

A principal argument of hunting advocates' in support of trophy hunting is the financial incentives, which enhance local communities' interest in protecting wildlife (ARC Centre of Excellence for Environmental Decisions, 2015; Joppa & Hutton, 2012; Lindsey, Roulet & Romañach, 2006; Sachedina & Nelson, 2010) as well as the possibilities for farmers who farm with wildlife. Coltman *et al.* (2003) stress that trophy hunters are willing to pay large sums of money for some trophies (up to 1 million Canadian Dollars for a trophy ram), thereby making the sport more lucrative than normal ecotourism. If trophy hunting is conducted in a sustainable manner (e.g. no overshooting of species, inclusion of local communities) it can serve as an

alternative land-use form that is more sustainable than conventional agriculture or conventional non-consumptive ecotourism (Joppa & Hutton, 2012; Novelli & Humavindu, 2005). Compared to other forms of tourism, trophy hunting offers the advantage that it can take place in areas which are unsuitable for non-consumptive ecotourism. These could be areas with unspectacular scenery, areas in which the existing wildlife is uninteresting for normal ecotourists and even in politically unstable areas (e.g. Central African Republic) (Lindsey, Frank, *et al.*, 2006). Some researchers claim that, in contrast to other types of tourists, trophy hunters require less infrastructure, such as large lodges and roads and a large variety of foods, and they usually do not mind travelling to remote places (Baldus & Cauldwell, 2004; Baldus, Damm & Wollscheid, 2008; Lindsey, Frank, *et al.*, 2006; Patterson & Khosa, 2005). Some advocates argue that trophy hunting has less impact on wildlife and their behaviour than conventional photographic ecotourism. For example, they claim that the noise made by photographic ecotourists can alter the behaviour of wildlife (Higginbottom, 2005). Trophy hunting is also regarded as a useful tool for removing problem animals which are defined as animals that negatively interfere with humans, for instance when they destroy crops or kill livestock (Lindsey, Roulet & Romañach, 2006). In some instances trophy hunting has even contributed to the recovery of threatened species such as the bontebok, black wildebeest, cape mountain zebra and the white rhino in South Africa (Endangered Wildlife Trust, 2015).

Another positive effect of trophy hunting is that it does not preclude the use of other resources on the hunting grounds, such as the collection of firewood, grazing and sometimes even subsistence hunting. All these activities are usually not allowed in national parks. By giving permission to local communities to make use of the natural resources, trophy hunting indirectly increases their acceptance of conservation objectives (Lindsey, Roulet, *et al.*, 2006). Trophy hunting also facilitates the generation of substantial revenues from a relatively small number of hunters.

Even though anti-poaching units are not a legal prerequisite, hunting operators often fight poaching to protect their wildlife. Hereby, trophy hunting contributes to the minimization of illegal hunting, where some of its income is used to finance anti-poaching units (Challender & Cooney, 2016; Lindsey, Roulet, *et al.*, 2006). Another benefit of trophy hunting is its relatively low leakage. Leakage is explained as “the failure of tourist spending to remain in the destination economy” (Sandbrook, 2008: 125). Normal ecotourism packages are often sold by agents based overseas, but an online survey of African trophy hunting operators by Lindsey, Roulet & Romañach (2006) found that most trophy hunting operators are based in the host countries. This

makes trophy hunting's leakage factor much lower than that of normal photographic ecotourism.

2.5.2 Arguments against trophy hunting

Unfortunately, studies have shown that although local rural communities in southern Africa do benefit from trophy hunting, they usually only benefit minimally in an economic sense. The unequal distribution of revenues gained through trophy hunting is one of the most serious threats to the long-term sustainability of trophy hunting. Reasons for the inequity in the distribution are, for example 1) legislation in many countries (which enforce community involvement); 2) governments that fail to devolve ownership of wildlife to local communities; and 3) a lack of skills in local communities to run hunting operations themselves or to negotiate terms with hunting operators that might be more beneficial for them (Lindsey, Roulet, *et al.*, 2006; Muposhi *et al.*, 2016).

Game ranches in southern Africa are required by law to have perimeter game fences. Such fences can hinder or disturb natural wildlife migrations. The fenced ranches are also usually quite small and tend to be overstocked which leads to ecological degradation (Lindsey, Roulet & Romañach, 2006; McGranahan, 2011). On their private land ranchers often eliminate non-huntable species (such as wild dogs or cheetahs), which are seen as competition to potential trophy animals.

Local African communities are often not well informed about the dynamics of tourist hunting and they only have very limited knowledge about the industry, thereby rendering them less interested in partnering with the private sector for trophy hunting ventures (Woodroffe, Thirgood & Rabinowitz, 2005).

The requirements for concession area leaseholders to contribute to anti-poaching and community development programmes are vague and often poorly enforced. Operators often become slack in contributing to anti-poaching programmes, especially after the hunting season, so leaving the wildlife with little to no protection (Caro *et al.*, 1998). In some cases the operators do not have the guarantee that their leases will be renewed. This limits operator willingness to invest in anti-poaching, wildlife management or community projects (Mayaka *et al.*, 2005).

In contrast to the argument of relatively low leakage, Campbell (2013) and Leader-Williams & Hutton (2014) stress that there are too many different stakeholders involved in the trophy hunting business in southern Africa and that agents, hunting operators and professional hunters are mostly foreigners. This means that leakage is high and that local communities only receive

a small percentage of the money gained through trophy hunting (Lovelock, 2008b; Wilson-Spath, 2019; Woodroffe, Thirgood & Rabinowitz, 2005). Although trophy hunting is a useful tool for problem animal management, the animals that are shot under the claim that they are causing problems to local communities are not necessarily problem animals (Loveridge, Reynolds & Milner-Gulland, 2006). One example of this is crop-raiding elephants in Zimbabwe. These elephants destroy crops in the wet season (between November and April) but most of the sport hunting takes place in the dry season (between May and October). Therefore, the elephants shot during trophy hunts are not those involved in crop raiding, and the hunting of these animals does not preclude the loss of crops (Loveridge, Reynolds & Milner-Gulland, 2006). Baker (1997b) has also pointed out that quotas often do not include specimens killed for controlling problem animals.

The public's perception of trophy hunting is a crucial consideration. Various debates and polarized opinions are aimed at banning trophy hunting on the claim that it is inhumane, that it does not actually benefit local people and that it harms animal populations, for example through altering the genepool (Cooney *et al.*, 2017; Loveridge *et al.*, 2016; Shackleton, 2001) or population dynamics (Loveridge *et al.*, 2007). Cooney *et al.* (2017) comment that it is important to remember that even though hunting governance and practice need to be reformed, it is essential to understand that blanket restrictions on trophy hunting can actually have an adverse effect on conservation and that the calls for these restrictions are usually rooted in a lack of information and wrong assumptions. This scarcity of information also affects the level of agreements between NGOs, African governments and associated private game reserves (Lindsey, Roulet & Romañach, 2006).

Setting quotas for trophy hunting as well as the over- or undershooting of these quotas are other real issues. In most countries (especially those in Africa), the wildlife departments do not have the resources to assess wildlife populations regularly, which means that the hunting quotas are often based on guesswork. Also, because each trophy animal has a high monetary value, there is intense pressure to keep the quotas high (Lindsey, Roulet & Romañach, 2006). Joppa & Hutton (2012) explain that the so-called 'vacuum effect' occurs when animals, especially lions, are hunted in areas adjacent to protected areas and lions from the protected areas wander into the now free territories, putting them at risk of being hunted.

A further problem impacting on the sustainability of hunting is the allocation of hunting areas. Often the process of leasing hunting concessions is difficult and in Tanzania, for example, hunting areas are often undersold, resulting in smaller hunting blocks being subleased at up to

20 times the original price. This causes a loss of income for the state. Corruption too is a pressing problem regarding the sustainability of trophy hunting. Corruption occurs when government officials wilfully overlook operators who exceed their hunting quotas or when they favour certain operators when granting concessions. In many instances, hunting by local citizens can disturb the number of available 'high value' trophy animals (Baker, 1997a; Lindsey, Roulet & Romañach, 2006). Hunting permits for locals cost much less than the permits issued to foreigners. This inevitably reduces the number of high-value trophy hunts on offer to the foreign trophy hunting market and in turn this reduces the financial incentives for local communities to protect wildlife (Leader-Williams, Baldus & Smith, 2009; Lindsey, Roulet & Romañach, 2006).

Trophy hunting is limited by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulations. CITES is a multilateral treaty which aims to protect endangered plants and animals. It categorizes over 35 000 different species of plants and animals into various levels of protection and its purpose is to regulate the trade of endangered plants and animals in order to secure their survival. It is a voluntary international agreement between different countries and organizations (Convention on International Trade in Endangered Species of Wild Fauna and Flora, 2019). Limitations through CITES on trophy hunting result in a loss of revenue as hunters are not allowed to export or import their trophies. This stifles the trophy hunting businesses in the host countries, which diminishes the incentives for conservation (Wilkie & Carpenter, 1999). Concomitantly, an increase in poaching is expected due to the lesser amounts of money generated through hunting, parts of which are often spent on conservation (Lindsey, Roulet & Romañach, 2006; Mbaiwa, 2008b).

The trophy hunting industry often suffers from inadequate regulations (Natural Resources Committee Democrats, 2016). Trophy hunting operators do not necessarily undergo formal training and they are therefore not very professional. Operators do not have to be members of professional hunting associations nor do they have to uphold the associations' standards, inevitably resulting in them being unprofessional which in turn affects their ethical conduct and their credibility. Due to the nature of the industry, hunting grounds are often located in very remote areas, making it difficult for wildlife departments to inspect and regulate these areas (Lindsey, Roulet & Romañach, 2006; Leader-Williams, Kayera & Overton, 1996). Trophy hunting is also considered to be crueller than hunting for meat, because hunters aiming for the 'perfect trophy' avoid headshots (they cause instant death) which would disfigure the trophy and hinder it from being mounted (Campaign to Ban Trophy Hunting, 2019). The following subsection deals with the possible problems around purposefully bred species.

2.5.3 Hybrid breeding

One genuine concern of the hunting opponents is that the gene pool for specific species will be influenced due to the selective nature of trophy hunting (Damm, 2005; Higginbottom, 2005). To increase diversity, exotic animals are introduced and some species are purposefully hybridized with related species to create mutations or colour variations (Damm, 2005; Deere, 2011; Lindsey, Roulet & Romañach, 2006; Van der Merwe & Saayman, 2005). Nel's (2018) study has shown that South African hunters prefer animals that have not been bred purposefully, whereas there is a high demand by international hunting tourists for exceptional trophies. Since 2016 there have been reports of an oversupply of colour variants which precipitated a significant decrease in game prices (e.g. prices for black impala ewes dropped from R610 000 in 2014 to R7500 in 2018) (Nel, 2018). Another argument that is regularly mentioned in the discussions around trophy hunting are the possible evolutionary consequences where the oldest animals with very characteristic body features are generally hunted and therefore removed from the gene pool (Batavia *et al.*, 2018; Coltman *et al.*, 2003; Greyling, McCay & Douglas-Hamilton, 2003).

Section 2.5 has provided insight into the compatibility of hunting and nature conservation by assessing various arguments for and against trophy hunting. Furthermore, possible issues of hybrid breeding were introduced. The following section will assess the history of recreational sport hunting, with a special emphasis on Europe, the United States of America, Australia and Africa.

2.6 THE HISTORY OF RECREATIONAL SPORT HUNTING

The way we regard wildlife is shaped by the ways in which our ancestors hunted. Early hunters hunted not only for subsistence but also for an exchange of social rituals and sharing, gifting and trading (Arnett & Southwick, 2015). Today, recreational hunting takes place in most countries in which leisure activities are fully developed and therefore hunting is done mostly in the richer countries of the world but also in less developed countries by affluent hunters (Sharp & Wollscheid, 2009). Hunting takes on various forms and is controlled by various governmental regulations and laws that regulate how and when the hunts can take place (Dickson, Hutton & Adams, 2009).

This section reviews literature on recreational hunting with attention given to the history and development of hunting and wildlife management in Europe, the USA, Australia and Africa. Because recreational hunting, especially trophy hunting, is conducted in many countries it is a well-researched activity with a resultant wealth of literature. Popular trophy-hunting destinations are Mexico (Barthel & Schuett, 2014), Canada (Freeman, Hudson & Foote, 2005), Alaska (Snepenger & Bowyer, 1990), Pakistan (Shackleton, 2001), Western China (Harris & Pletscher, 2002), the Arctic (Aarekol, 2016), most countries in Europe and about half of the 54 African countries (Cooney *et al.*, 2017; Leader-Williams, Kayera & Overton, 1996; Lovelock, 2008b; Mbaiwa, 2018a; McNamara, Claasen & Descubes, 2015; Muposhi *et al.*, 2016; Novelli & Humavindu, 2005).

2.6.1 Hunting in Europe

In the early years of trophy hunting in Europe the sport was exclusively done by wealthy people and mostly on private properties (Aarekol, 2016). Around 1830, British sportsmen introduced trophy hunting to Scandinavia because the overcrowding of hunting grounds and rising costs of hunting permits in Scotland drove the hunters to find new hunting grounds (Sillanpää, 2008). Scandinavia's untouched lakes, forests and rivers full of wildlife were an attractive alternative (Sillanpää, 2008). The new hunting areas had similarities with Scotland's flora, fauna and landscapes while being exotic destinations (Sillanpää, 2008). The pioneering sportsmen went off to explore the Salmon-rich rivers of Norway and approximately 90 years later, the Swedish mountain areas too (Sillanpää, 2008). Some of the early explorers also ventured into the Arctic (Aarekol, 2016).

Today, recreational hunting as an organized activity is flourishing in Europe. According to the Federation of Associations for Hunting and Conservation in the EU (2019), there are some seven million hunters in 35 countries in Europe. Hunting in Europe contributes billions of Euros to the EU economy, takes place in rural areas and supports the maintenance of wildlife-friendly habitats (Sharp & Wollscheid, 2009). The ratio of hunters to the general population varies strongly within different regions and there are marked differences in the imposed laws, regulations and codes of conduct (Sharp & Wollscheid, 2009). Pinet (1995) assessed hunters in Europe and outlined four categories of European hunting traditions (see Table 2.1).

Table 2.1: Hunting traditions in Europe

Hunting tradition	**Characteristics (ratio of hunters to general population, nature of phenomenon, social class)**
Scandinavian	Highest ratio of hunters to general population, spontaneous leisure pursuit, takes place in all social classes, not based on geographical origin (rural or urban), close-to-nature-approach in their hunting practice.
Latin + Ireland (Latin European countries: France, Moldova, Portugal, Romania, Spain, Monaco, San Marino, Andorra)	Low ratio of hunters to general population but largest pool of hunters in the EU, most popular among rural people with middle to low income. Mostly hunting small game and birds (migratory and non-migratory).
Anglo-Saxon	Low ratio of hunters to general population, focussing on "sporting" aspects of the hunt, based on land ownership.
German/Dutch	Low ratio of hunters to general population, high income, aristocratic traditions, focussing on big game and complex codes of conduct. Area is origin of game management aspects of hunting.

Source: adapted from Pinet (1995); Sharp & Wollscheid (2009)

The following subsection will introduce the history of hunting in the United States of America.

2.6.2 Hunting in the United States of America

The conservation of wildlife in the USA dates back to prehistoric people (Jones, 2013). Indigenous North Americans already had wildlife and landscape management practices which were unfamiliar to the colonizing Europeans when they arrived in North America. Trade became one of the first driving factors forming relationships between indigenous people and Europeans. Furs and other wildlife products were traded for European products. The resulting high demand by Europeans for American wildlife goods caused an overexploitation of these products from the mid-1800s to the early 1900s (Mahoney & Jackson, 2013). This decline in resources led to the founding of modern wildlife management and conservation ethics in North America (Krausman & Bleich, 2013; Mahoney & Jackson, 2013).

Trophy hunting is now a very popular sport in the USA and provides a foundation for social interaction, the exchange of cultural traditions and the fostering of relationships between families and communities (Sharp & Wollscheid, 2009). Hunting regulations in North America stipulate that wildlife does not belong to anybody and cannot be sold (Sharp & Wollscheid, 2009). Hunting is open to everybody and access must be granted when the land on which the hunt takes place is privately owned (Sharp & Wollscheid, 2009). As the commercial sale of hunted meat is prohibited in the USA, people are reliant on befriended hunters to be given meat, thereby cultivating social networks (Arnett & Southwick, 2015).

Hunting plays a crucial role in contemporary wildlife management in North America and any decline in hunting would detrimentally affect North America's economy and social networks as well as its wildlife. It has been estimated that the overall economic contribution to the GDP from expenses related to hunting was around US$ 86.9 billion in 2011. The number of licensed hunters in the USA has steadily declined since the 1980s and has caused an array of ecological, economic and social effects (Larson *et al.*, 2014). Even though hunts take place in the USA, Americans are well known for being very active trophy hunting tourists. According to The Humane Society of the United States (2016), more than 1.26 million wildlife trophies were imported into the USA between 2005 and 2014 with a yearly average of 126 000 trophies, most of which came from Canada, South Africa and Namibia (Barthel & Schuett 2014).

2.6.3 Hunting in Australia

Australia offers a large variety of animals as potential hunting subjects, such as horses, camels, deer and buffalo (Sharp & Wollscheid, 2009). Many of the animals being hunted in Australia were introduced by Europeans, either as a source of food (e.g. pigs), beasts of burden (e.g. camels) or specifically to be hunted (e.g. foxes). All of these animals are causing environmental damage and live in competition with native species. Most of these animals are not classified as endangered or threatened but they have been identified as vertebrae pests (Sharp & Wollscheid, 2009).

Both domestic and international hunts take place within Australia. The Australian government has recognized the hunting market's potential to create a small niche market that can be profitable and bring income to rural areas in Australia. It is also acknowledged that exotic animals must be managed and that recreational hunting can help in environmental conservation. Hunting in Australia takes place as both private recreational hunting and trophy hunting. The former can become commercial hunting when the hunter has to pay for access to a specific

hunting area or the animal itself. The recreational hunter also has the option of paying for the services of a hunting outfitter if the hunting area is not well-known or when help is needed to access the desired animal. Safari hunting is generally more organized and conducted with a guide. It is also complemented by other tourist experiences and does not consist only of the hunt (Craig-Smith & Dryden, 2008; Finch *et al.*, 2014).

Australia has the potential to become a popular hunting destination as hunters can expect several large animal species, especially exotic species that compete directly with native animals and therefore need to be managed for conservation purposes. Australia has an existing hunting industry which makes the country more accessible to foreign hunting tourists. However, there are issues concerning consumptive hunting that could limit its success in Australia. First, not all Australians agree with the idea of killing animals for sport (Craig-Smith & Dryden, 2008). Another vital factor is the concern about Australia's image as an international tourism destination, which is marketed as an animal- and environment-friendly destination. An increase in consumptive hunting tourism might tarnish this image. Hunting is permitted, and conducted, in all the country's states and territories. There are three major hunting associations, namely the Australian Deer Association (ADA), the Sporting Shooters Association of Australia (SSAA) and the Safari Club International Downunder Chapter (SCI DC) as well as over 50 recreational hunting clubs (Craig-Smith & Dryden, 2008; Finch *et al.*, 2014).

2.6.4 Hunting in Africa

Rock paintings found in southern Africa give evidence of hunting expeditions more than 12 000 years ago and show hunting of elephant (*Loxodonta africana*) and other species (Booth & Cummings, 2009). Other evidence confirms that ivory trade has been taking place from about AD 1100 in the Limpopo valley of South Africa and even earlier from the east coast of Africa. Hunting has thus been taking place in Africa for thousands of years (Booth & Cummings, 2009).

The exploration of southern Africa by Europeans was closely associated with the hunting of large game. The rounding of the Cape of Good Hope by Vasco da Gama in 1497 and the establishment of Portuguese trading posts along Africa's east coast marked the beginning of the exploration of and penetration into southern Africa (Booth & Cummings, 2009; MacKenzie, 1988). During the 17th century, Dutch and British bases were established in the Cape. It was particularly elephants that were hunted for sport and trade as the sale of ivory financed early expeditions. Due to growing export markets, commercial hunting was introduced and

expeditions for ivory and hides were organized. Firearms were handed out to many local hunters which resulted in a decline in wild game across southern Africa (Booth & Cummings, 2009; MacKenzie, 1988). Elephants were nearly extinct south of the Zambezi and quaggas (*Equus quagga*) and blue buck (*Hippotragus leucophaeus*) became extinct by the end of the nineteenth century (Deere, 2011; DeGeorges & Reilly, 2009). During the twentieth century the European colonies became independent nation states resulting in recreational hunting legislation being strongly influenced by colonial history (Adams, 2004; Booth & Cummings, 2009; Lindsey, Roulet & Romañach, 2006).

Kenya was the first country to establish a well-organized trophy hunting industry after the Second World War (Booth & Cummings, 2009). Across the country the first network of blocks for recreational hunting were established and laws and regulations were put in place to regulate the conduct of hunting. In order to restrict and manage the safari hunts, licence fees and hunting permits were implemented. Professional hunters had to complete an apprenticeship in order to register with the East African Professional Hunters' Association and be approved by it (Booth & Cummings, 2009). This association set high standards for the hunting industry and became the benchmark for the developing trophy hunting industry in Southern Africa during the 1970s (Booth & Cummings, 2009).

During the early twentieth century Kenya also became the first African country in which tourists could participate in the trophy hunting industry. These tourists were mostly wealthy Europeans and Americans as trophy and big game hunting have traditionally been an activity reserved for the elite (Naevdal, Olaussen & Skonhoft, 2012). Trophy hunting safari tours were guided by farmers and explorers (Adams, 2004). Over the years trophy hunting became more accessible to many people owing to growing wealth and income as well as greater mobility (Naevdal, Olaussen & Skonhoft, 2012). According to Lindsey, Roulet & Romañach (2006) more than 1 394 000 km^2 in sub-Saharan Africa are used for trophy hunting – an area that is larger than the combined area of the national parks. This estimate made in 2006 is therefore dated, but the land area for trophy hunting has quite likely increased rather than decreased since then.

Until the 1950s the trophy hunting system in southern Africa was dominated by Europeans, and hunting was almost exclusively conducted by a white minority of hunters. The wildlife was owned and controlled by the government on both public and private land. Hunting licences were issued by the state, but permission had to be obtained from the landholders before land could be accessed and hunts could take place. Hunting seasons were regulated through legislation, and access to sporting weapons was strictly controlled. Hunting was mostly granted

to whites, while local communities were forced to live on ‘communal lands’ and they were deprived of the right to hunt (Booth & Cummings, 2009; MacKenzie, 1988).

The African continent has a long history of colonialism. The colonial governments created protected areas across the continent which prohibited local communities from living on these areas and formulated laws that prohibited local communities from making use of wild species (Büscher & Dietz, 2005; Freeman, Hudson & Foote, 2005). Governments held a traditional view of nature conservation with an emphasis on protectionism. It was believed that in order to successfully protect nature it is necessary to keep humans away from it. This type of conservation is called fortress conservation (Bocchino & Burroughs, 2013; Büscher & Dietz, 2005; Jones & Murphree, 2004).

Where the local people once lived on the land and made use of its wildlife while following traditional rules and management, nowadays they are deprived of that access so causing economic instability. The protected areas are under pressure as rural people see them as not being used properly and as a home for dangerous animals that destroy their crops. Given that the rural local communities are not allowed to legally make use of land and wild animals, they have to find other ways to sustain their livelihoods legally and they often turn to domestic livestock and crops. This is problematic as many areas in southern Africa are arid or semi-arid and therefore unsuitable for agriculture. Land is cleared to be settled and used for agriculture so that wild lands and habitats for wild species are shrinking. Due to inappropriate use, large tracts of the land will be irreversibly damaged (Freeman, Hudson & Foote, 2005; Loveridge, Reynolds & Miler-Gulland, 2006; Deere, 2011).

An alternative that combines the conservation of wild lands and the uplifting of rural communities are community-based natural resource management (CBNRM) programmes. They are a substitute for state-run systems which have been shown to be ineffective. They aim to provide incentives to rural communities which will make the conservation of natural environments more attractive to people (Dressler *et al.*, Submitted/In press; Gird, 2015; Hutton, Adams & Murombedzi, 2005; Mulrennan, Mark & Scott, 2012).

The first CBNRM programmes were developed during the 1970s but only became popular in the 1980s and 1990s (DeGeorges & Reilly, 2009; Dressler *et al.*, Submitted/In press; Hutton, Adams & Murombedzi, 2005). These programmes promote the idea that local communities should be included in the management of natural resources (Hutton, Adams & Murombedzi, 2005). They aim to not only uplift communities but also to empower them by recognizing the benefits of nature conservation (Dressler *et al.*, Submitted/In press). There are several CBNRM

programmes in Africa, such as the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe (Jones & Murphree, 2004), the Natural Resource Management Program in Botswana, the Administrative Management Design for Game Management Areas (ADMADE) and the Luangwa Integrated Resource Development Project (LIRDP) in Zambia and Living in a Finite Environment (LIFE) in Namibia (DeGeorges & Reilly, 2009).

While the benefits of CBNRM programmes were initially predominant in the literature (Brandon & Wells, 1992; Lynch, Lindsay & Singh, 1995; Wainwright, 1998), a shift occurred with many shortcomings being highlighted (Alexander & Mcgregor, 2000; Mulrennan, Mark & Scott, 2012; Turner, 2004). Enquiries conducted about the effectiveness of CBNRM programmes concluded that they have very limited successes (DeGeorges & Reilly, 2009; Ferraro & Kiss, 2002). The limitations that CBNRM programmes face have been assessed by DeGeorges & Reilly (2009) who claim that they are, among other things, the low resource and population ratio as well as the uneven distribution of profits from safari hunting between communities and tourism enterprises.

The African continent boasts a very wide variety of hunting destinations. Even though hunting is considered to be an effective tool for nature conservation, recreational sport hunting has been banned in some countries, for example by Botswana in 2014 (Mbaiwa, 2018a). Due to these bans, local communities have had to shift their attention from hunting to photographic tourism, and this has caused the development of negative attitudes towards wildlife conservation and it increased the number of poaching incidents (Mbaiwa, 2018a).

A large body of academic literature exists on trophy hunting in African countries. Samuelsson & Stage (2009) reported on the size and distribution of the economic impacts of Namibian hunting tourism; Sachedina & Nelson (2010) investigated protected areas and the financial contributions of trophy hunting; McGranahan (2011) examined ecological sustainability assessment factors and trophy hunting operations in Namibia; Naidoo *et al.* (2016) explored the benefits of tourism and hunting to communal conservancies in Namibia; and Mbaiwa (2018a) considered the effects of the safari hunting tourism ban on rural livelihoods and wildlife conservation in northern Botswana.

This subsection has assessed the history of hunting in Africa and revealed that the continent is a popular destination for international tourists because of its unique landscapes and wildlife. Despite the sports possible ability to finance nature conservation it has been banned in some

African countries. The following section will explore hunting in the public discourse with a focus on the ethics and morality of recreational hunting.

2.7 HUNTING IN THE PUBLIC DISCOURSE: THE ETHICS AND MORALITY OF RECREATIONAL HUNTING

This section reviews the main viewpoints of the general public, pro-animal groups, hunters and conservation managers on the ethics of hunting. It then shows how moral arguments play an important role in the legitimation of hunting practices. It introduces the concepts of Kantianism and consequentialism and overviews the discussion on ethical behaviour and hunting and ends by looking at how hunting is portrayed through hunters in the public discourse.

According to Lindsey, Roulet & Romañach (2006: 465) the principle of fair chase is questionable when it involves "shooting from vehicles, shooting female or young animals, luring animals from parks, using baits and spotlights, hunting leopards with dogs, put-and-take hunting (the practice of releasing trophies immediately prior to the onset of a hunt); and 'canned hunting' (the practice of hunting animals in small enclosures in which they have no chance of escaping the hunter)." The key principles of ethical hunting are "that a person knows and respects the game hunted, follows the law and behaves in a way that will satisfy what society expects of a hunter. Ethical hunters are familiar with the places they hunt, the wildlife that live there and the way they should behave when hunting" (Game Management Authority, 2019: s.p.). During the past few decades the general public has become increasingly involved in nature-related issues and more emphatically towards wildlife (Manfredo, Teel & Bright, 2003). This has resulted in people becoming more interested in conservation matters and made them question the ethics of some practices (Manfredo, Teel & Bright, 2003). The hunt of Cecil the lion in Zimbabwe in 2015 was an event that caused a public debate about the appropriateness of shooting certain species for conservation (Di Minin, Leader-Williams & Bradshaw, 2016; Macdonald, Jacobsen *et al.*, 2016; Nelson *et al.*, 2016). According to Freeman, Hudson & Foote (2005) the public is generally ambivalent or negative about hunting. They have strong opinions about trophy hunting, mainly directed on ethical considerations and the question if it is our right to shoot and kill wildlife as a leisure activity. Usually, they do not consider the possible advantages that trophy hunting has to offer (Fischer *et al.*, 2013). These claims from the public, especially in emotionally charged environments, should not be ignored as most nature-conservation initiatives are dependent on public support (Booth & Cummings, 2009).

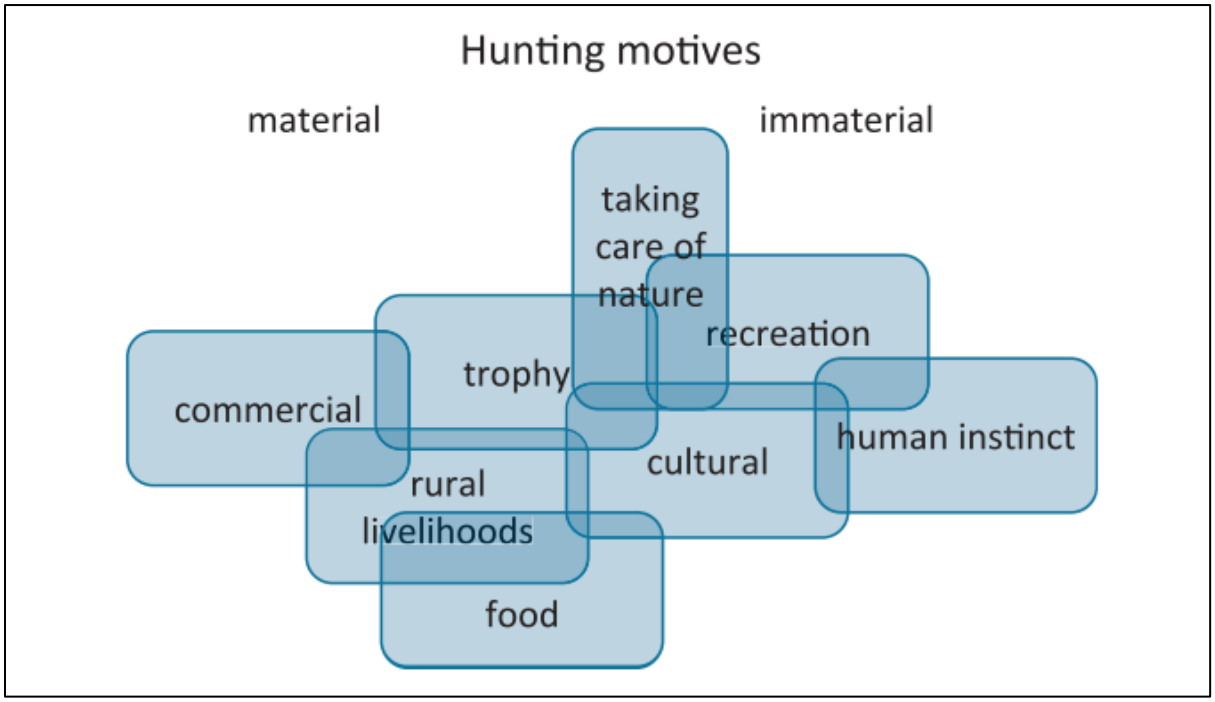
The beliefs of the public are generally shared by pro-animal groups. Organizations, such as the League Against Cruel Sports in Britain or the Humane Society of the United States (League Against Cruel Sports, 2019; The Humane Society Of The United States, 2019) are campaigning against hunting. On the other hand, prominent nature conservation organizations such as the World Wildlife Fund (WWF) (Knezevic, 2009) and the Endangered Wildlife Trust (2015) are promoting hunting as a sustainable land-use form.

Even within the different hunting communities varied opinions exist on different types of hunters, hunting organisations and hunting types, for example someone who hunts one or two animals per year to provide meat for his family might still condone trophy hunting as a sport. Generally speaking, hunters follow a strict code of conduct that provides regulations for ensuring fair chase and sustainable use of the resource (Patterson, 1999). According to Dickson (2009) these hunting ethics are seen as decisive factors influencing the self-understanding of hunters. Hunting organisations include specific codes or rules in their guidelines in order to implement a self-regulation or ethical conduct that goes beyond the legislation (Dickson, 2009). Conservation managers regard hunting as a valuable source of income to fund nature conservation programmes and it is therefore a favoured land-use form. Leopold (1961) was the first scholar to recognize wild game as a form of ‘crop’ or ‘land produce’ and that it can or should be used for recreation. Even today, wildlife managers consider wildlife as a crop and see it as something that is cultivated and harvested for human use. It is essential to understand the crucial difference between conservation and preservation. Whereas preservation intends to save a resource from being used, conservation intends the use thereof (Freeman, Hudson & Foote, 2005).

Gunn (2007) has separated the levels of acceptance of hunting into four categories:

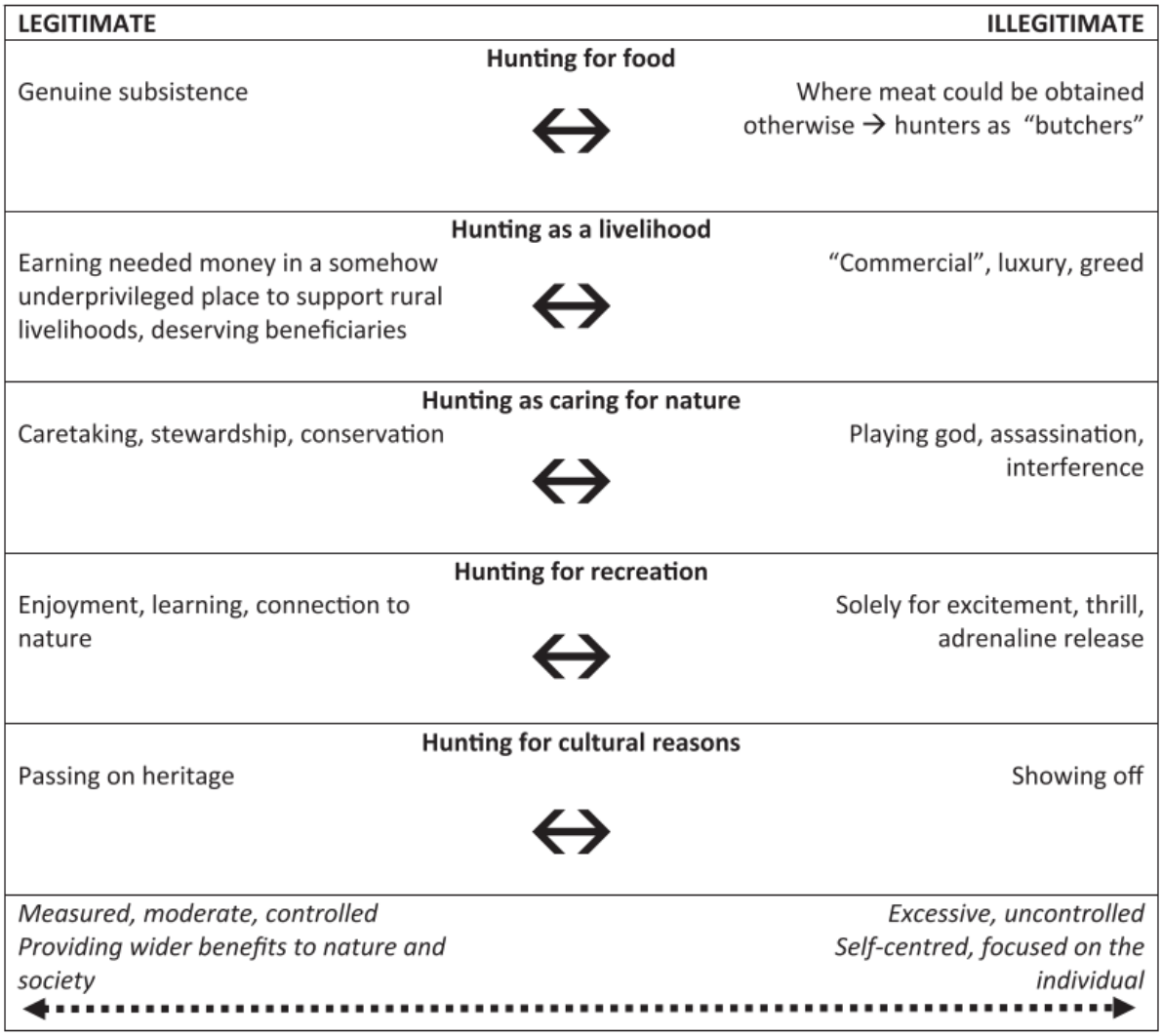
1) Hunting is only justified as a means for self-protection and for food if there is no other alternative available.
2) Hunting is justified under certain circumstances, for example to protect endangered species and threatened ecosystems and to eradicate destructive species that have been introduced by humans and that face no natural predators.
3) Some people accept hunting as a part of a cultural tradition or as a means to increase the psychological well-being of the hunter. This level includes sport hunting as long as it adheres to the principles of fair chase.
4) Hunting for fun – only to enjoy the kill itself or only for the acquisition of trophies – is rarely to never defended.

Fischer *et al.* (2013) assessed the insights from focus group discussions and interviews on hunting and wildlife management with hunters, non-hunters and hunting critics representing six European and East African countries. Their findings show that moral arguments play an important role in the extent to which a hunting practice is considered legitimate. The motives are generally the determining factors for their acceptance of hunting practices (see Figure 2.2). The assessment also revealed that there might be more overlapping arguments between hunters, non-hunters and hunting critiques than is popularly assumed and that this could be a starting point to resolve conflict between these groups (see Figure 2.3).



Source: Fischer et al. (2013: 264)

Figure 2.2: The motives of hunters to go hunting



Source: Fischer et al. (2013: 267)

Figure 2.3: Gradients of moral arguments on hunting motives used to (de-)legitimize hunting

There are two main groups in the ethical debate on the righteousness of trophy hunting, namely the Kantian camp and the consequentialist camp (Macdonald, Johnson *et al.*, 2016; Mkono, 2019b). The Kantians speak out against any form of trophy hunting, regardless of any positive outcomes, while the consquentialists follow a more utilitarian view and judge the ethicality of an action by its outcomes. This view follows the ideas of Jeremy Bentham and sees trophy hunting as ethically justifiable as it is considered as a means to a positive outcome (Macdonald, Johnson, *et al.*, 2016; Mkono, 2019b). Consequentialism follows the idea that "…the consequences of one's actions or a policy [are] the sole basis for judging whether they are right or wrong" (Nelson *et al.*, 2016: 303).

Hunting has been subjected to increasing criticism in recent years. The question is asked whether the use of an animal for its recreational value is the same as harvesting an animal for

food. The legitimacy of certain tools used in wildlife management are also being challenged with reference made to the level of pain and suffering inflicted on animals (Dickson, 2009; Nelson *et al.*, 2016). Nelson *et al.* (2016) stress that it is crucial not to underestimate the role of emotions in decision-making regarding nature conservation. Conservationists need to gain a better understanding of ethical perspectives and key role players should obtain a better understanding of how emotions affect the way in which people make judgements and decisions. It is a common perception that people are not always able to make an unbiased decision because of their emotions, especially when it involves hunting wildlife for conservation (Nelson, *et al.*, 2016). Nelson *et al.* (2016) evaluated the role that emotions play in decision-making and proposed a counterargument to Damm's (2005) statement that emotion has to be kept out of the equation. Damm (2005) stressed that the debate about ethics between people with different ethical values (hunters and anti-hunting) or even between hunters with different values is complicated and will most likely not produce any results. According to Damm (2005) the public discussion about the ethics of trophy hunting is unnecessary as it does not serve any practical purpose. In his opinion the discussion should concentrate on finding a regulatory framework and appropriate self-control mechanisms to create hunting standards and to ensure effectiveness in wildlife management (Damm, 2005). This opinion is not always valid, as illustrated by the demands of public and political pressure that led to changes in plans to cull elephants in Kruger National Park (Sam *et al.*, 2015). Any ignoring of these claims by the public, especially in emotionally charged environments, should be avoided as almost all nature-conservation initiatives are dependent on public support (Ljung *et al.*, 2012). Batavia *et al.* (2018: 2) claim that some of the literature on trophy hunting has "…become homogenized, stagnant, and perhaps alienated from the larger popular discourse with its almost singular focus on the effects or effectiveness of trophy hunting, to the neglect of other ethical considerations."

Mkono (2019a) investigated how trophy hunters publicly justify their acts through the online presence they create. She examined how they frame and rationalize their controversial activity. She analysed the content of websites such as Facebook, Twitter, TripAdvisor, YouTube videos and personal blogs through a keyword search and found that three mechanisms are used by hunters to justify their hobby, namely altruization, euphemization and the scientifizing/anti-emotionalizing of their action. She concluded that most hunters rationalize their behaviour with altruistic framing of trophy hunting, claiming that their hunts are a conservation and sustainability tool. Hunters also stress that they care deeply about the wildlife and that their hunt saves the wildlife from other dangers in the wild. She also noticed that hunters often use euphemization when they speak about their kills, using terms such as 'harvesting' or 'taking'.

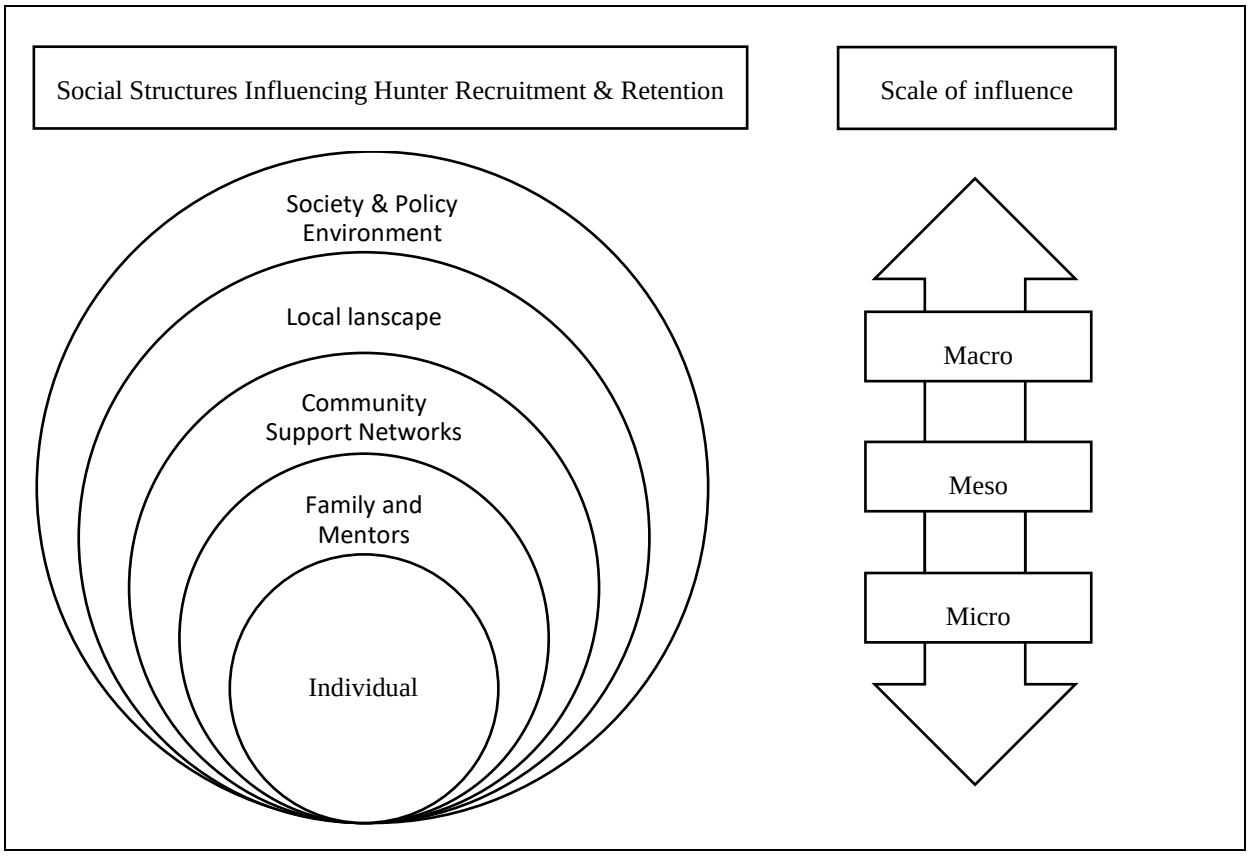
This makes hunting seem less cruel and reminds one of the gathering of crops or non-violent farming activities rather than guns, blood and dead animals. She also noticed that hunters tend to classify the outrage of the public as too emotional, irrational, sentimental and not driven by reason. They portray themselves as being persuaded by science and logic which they claim to be the opposite of the anti-hunters (Mkono, 2019b). There is a paucity of academic research results on how hunting opponents portray their viewpoints in the public debate. Consequently, the research of Mkono (2019b) resorted to reviewing articles published in popular newsletters to uncover the most commonly used arguments of the hunting opponents. The anti-hunting community follows the Kantian view which opposes all trophy hunting regardless of the possible outcomes (Mkono, 2019b). Another popular argument is that trophy hunting still has strong colonialist characteristics, being a sport that is mostly conducted by affluent white people in poorer Third World countries. They further centre their attention on the misuse of the generated money (corruption), the purported ecological consequences of hunting and the absence of fair hunting practice, even questioning if hunting can be fair given the level of modern technology used by hunters (Pinnock, 2019). Some articles use extreme cases and shocking numbers to create a very crass image of the hunting industry, for example the title of an article by Head (2019) reads: “Trophy hunter who ‘killed 5 000 elephants’ says he’ll never apologise”. Both sides – the hunters and the hunting opponents – show relatively little understanding of the opposing camps and do not respond to each other’s claims and arguments. This section has provided insights into the public discourse on the ethics and morality of recreational hunting. It revealed that the public generally is ambivalent or negative about hunting but also that it is important at the same time not to ignore the claims from the public as most nature-conservation initiatives depend on public support. Furthermore, it revealed that the level of acceptance often depends on the motivation of the hunt. The following section provides insight into hunting participation with the help of the hunter recruitment and retention model.

2.8 UNDERSTANDING HUNTING PARTICIPATION: A SOCIOECOLOGICAL BEHAVIOUR MODEL

This section introduces a model for assessing the sociocultural influences on the recruitment and retention of hunters. The hunter recruitment and retention (HRR) model is a framework that explains how various factors at multiple scales influence willingness to participate in and attitudes toward the hunting sport (Larson *et al.*, 2014). Given that the number of hunting participants, especially in the USA, has been continuously declining, it is essential to understand the factors influencing hunting participation (Larson *et al.*, 2014; Peterson, 2006; Ryan & Shaw, 2011).

The factors determining HRR operate at an individual level. Aspiring hunters undergo a recruitment phase in which they first become interested in and build an awareness of the hunting sport. In a second phase they are introduced into the hunting culture by learning new skills, and the norms and values associated with the sport. Continued engagement in the sport and support from their social environments lead to the development of a hunting identity and the integration into already existing social hunting systems (Ditton, Loomis & Choi, 1992; Larson *et al.*, 2014; Wentz & Seng, 2000). The social processes incorporated in the HRR model are shaped by the higher-level social structures or other societal influences such as social networks or laws. These then affect the actions of the individual. There are "Social structures that operate on multiple scales ranging from localized (e.g. immediate family) to very broad (e.g. global society) and they provide opportunities or settings in which system participants can interact" (Larson *et al.*, 2014: 107). In combination, these structures constitute the social habitat for hunting. According to the model the actions of individuals are influenced by social, environmental and policy-related components that are placed within the higher-ranked systems.

Figure 2.4 represents the HRR model graphically and shows how "the social-ecological system can be viewed as hierarchical layers centered on the individual participant. These layers expand to include socialization influences acting concurrently at the micro (e.g., family), meso (e.g., interactional community), and macro (e.g., broader society) levels of social structure" (Larson *et al.*, 2014: 107). According to this model the barriers to and incentives for potential hunting participation can be increased or mitigated by the forces playing on the various structural levels.



Source: Adapted from Larson et al. (2014: 107)

Figure 2.4: Levels of social structures exerting on influence on hunter recruitment and retention

The core level of the HRR model is the individual actor and it is based at the micro level. Two theoretical frameworks based on cognitive approaches and motivational or satisfaction approaches can aid in explaining hunting motivation at an individual level (Pierce, Manfredo & Vaske, 2001; Vaske & Manfredo, 2012). Cognitive approaches centre on values, value orientations, beliefs, attitudes and norms in order to understand how human thoughts affect behaviour. It has been shown that the attitudes of individuals toward hunting correlate with the individuals' participation in hunting practices (Daigle, Hrubes & Ajzen, 2002; Hrubes *et al.*, 2001). A key factor in predicting hunting participation are motivations (e.g. affiliative, achievement, and appreciative) (Decker, Provencher & Brown, 1984). Satisfactional approaches pivot on the satisfaction hunting gives individuals for assessing their reasons to go hunting.

Family and mentors also reside at the micro level and they imply the "intimate interactional social worlds in which the individual is an active participant" (Larson *et al.*, 2014: 109). When

a person has fewer connections with the activity, is not affiliated much with the hunting social worlds and is lacking in social support for the hunting sport, that person is less likely to continue the participation. Furthermore, hunting mentors also play an essential role in the recruitment and retention of new hunters, as they function as a bridge into the existing social hunting network.

Community support and networks are placed at the 'meso' level of social structure and build the social structure in the socio-ecological framework. The social habitat factors at this level that affect hunting and hunting opportunities are, for example, community support networks as well as the access to hunting areas and game populations. Community support networks in the form of peers, extended family, community networks or organizations influence HRR by having a significant effect on an individual's level of commitment to the hunting sport. An individual's access to hunting land is socially determined by access policies and land-use patterns (the local landscape) and is essential to hunting-related behaviour (Diefenbach *et al.*, 2005). Research has also found that hunters who hunt on private land rather than public land show a stronger orientation toward nature conservation (Larson *et al.*, 2014).

The macro-level in the social structure of the socio-ecological framework comprises of the society and policy environments. These are ideological and institutional patterns, policies and changes in an individual's culture which affect the individuals hunting behaviour. Changes in the demographic patterns, increasing urbanization and changing concepts of human-environment relationships exert much influence on HRR. For example, changes in the public's perception on specific types of outdoor recreation (in this case hunting) form attitudes towards hunting (Larson *et al.*, 2014). Because all these factors on the micro-, meso- and macro levels are interrelated it is essential to understand them in order to explain different levels of hunting participation.

2.10 GAINING INSIGHTS INTO HUMAN-ENVIRONMENT RELATIONSHIPS FOR UNDERSTANDING HUNTERS

Many conservation initiatives revolve around the idea of changing human behaviour, but to successfully influence behaviour it is vitally important that the predictors of behaviour are correctly diagnosed (St. John, Edwards-Jones & Jones, 2010; Vlek & Steg, 2007). Conservation scientists are interested in the factors that have an effect on human behaviour. The overarching aim of this research is to find out more about the hunters' reasoning regarding the environmental impacts of hunting. Unfortunately, academic literature on how hunters think about their effects

on the environment is very limited. Sociopsychological theories of behaviour are useful to understand hunters' thinking and behaviour in the context of conservation and natural resource management (St. John, Edwards-Jones & Jones, 2010).

To build a foundation of knowledge which will help to evaluate the results of this study of hunters, a number of theories and approaches, borrowed from various disciplines, are introduced to help assess human behaviour. Firstly the multiple-satisfaction approach (Darimont, Codding & Hawkes, 2017) is presented as it provides a good foundation for the understanding of the hunters' reasoning, but since it does not allow for the assessment of the deeper levels of the relationship between humans (in this case hunters) and their environment, other theories are also examined. Thus, two multidimensional constructs that facilitate insight into the relationship between humans and their environment, namely place attachment (Vaske & Kobrin, 2001) and sense of place (Gieryn, 2000; Larson, De Freitas & Hicks, 2013; Stedman, 2002), are introduced. Furthermore, two theories that can help in assessing pro-environmental attitudes, namely the theory of planned behaviour (TPB) (Ajzen & Driver, 1991) and the value-belief norm (VBN) theory (Oreg & Katz-Gerro, 2006), are examined. These theories are shown to aid the gaining of insights into the connection between humans and their environments, specifically the wild animal environment.

2.10.1 The multiple-satisfaction approach

The multiple-satisfaction is a conceptual tool for assessing hunter satisfaction and to improve game management (Darimont *et al.*, 2017; Decker, Brown & Gutiérrez, 1980; Gigliotti, 2000; Hammitt, McDonald & Patterson, 1990; Hendee, 1974). In the past, game management was based on the assumption that hunter satisfaction was dependent on either the number of hunted animals ('game bagged' approach) or the number of days spent in the field ('days afield' approach). The game bagged approach has been more appealing since the number of hunters as well as the population of game are generally declining, less animals are being hunted. The days afield approach is not used often, as the number of days spent in the field is dropping too (Decker, Brown & Gutierrez, 1980; Hammitt, McDonald & Patterson, 1990; Hendee, 1974). Hendee (1974) proposed the multiple-satisfaction approach and he applied it to sport hunting in particular. Child & Darimont (2015) have examined the online photographs of hunters and their harvested game to assess the level of satisfaction according to different 'smile' types. Trophy hunting is based on the idea that wildlife is a recreation resource. According to this approach, recreational resources can offer people various experiences, which can develop into

human satisfactions. These satisfactions can then turn into benefits, which are the goal of recreation resource management (Figure 2.5).

General Model	General Example	Specific Example
RESOURCE	OUTDOOR RECREATION RESOURCES	GAME AND FISH
↓	↓	↓
MEANS OF UTILIZATION (how the resource is tapped to gain a product)	RECREATIONAL ACTIVITIES AND EXPERIENCES	HUNTING AND FISHING
↓	↓	↓
PRODUCT (what is derived from the resource)	MULTIPLE SATISFACTIONS	EXERCISE, DISPLAYING SKILL, COMPANIONSHIP, SUCCESS, ETC.
↓	↓	↓
GOALS (ultimate objectives of management)	HUMAN BENEFITS	PHYSICAL BENEFITS (such as health), PSYCHOLOGICAL BENEFITS (such as self-esteem), PERSONAL BENEFITS (such as social relationships), ECONOMIC BENEFITS (such as food)

Source: Hendee (1974: 106)

Figure 2.5: The multiple-satisfaction approach focussing on hunter satisfaction

Hunting experiences are integral output products of game management that can turn into human satisfaction. The hunting experience consists of various aspects, and when they are combined, the hunter can experience diverse satisfactions. These satisfactions can vary and depend on the individual, the type of hunting and the conditions in which the hunt takes place. Hunting satisfactions can take form of a feeling of communing with nature, companionship, shooting and harvesting game, the display of success, the use of specialized equipment, physical exercise and relaxation (Hendee, 1974).

It is necessary to differentiate between satisfaction and benefits. Human satisfactions are the direct products of the hunt which can then lead to benefits. Benefits can be physical, psychological, personal and economic. These satisfactions and the benefits are seen as rationale to distinguish hunting from killing (Cooper *et al.*, 2015; Hendee, 1974). The hunting success is obviously an important hunting satisfaction, but it has been shown that it is one of many other satisfactions, as the other satisfactions and benefits are also very important to the hunter. Therefore, the way in which the experience of the hunt is perceived is not only dependent on the hunting success, but also on a mix of several other satisfactions (Hendee, 1974). After this subsection has provided insights into the multiple-satisfaction approach, the following subsection introduces the concept of place attachment in the context of recreational hunting.

2.10.2 Place attachment in the context of recreational hunting

The concept of place attachment describes the phenomenon of people attaching personal meanings to environmental settings (which can be either built or natural), and the meanings create or strengthen the person's emotional tie to a particular place (Cuba & Hummon, 1993 in Vaske & Kobrin, 2001). Vaske & Kobrin (2001) assert that an individual's or groups behaviour is environmentally friendly when their actions advocate the sustainable or diminished use of natural resources. The way in which humans are attached to a natural resource can influence their level of environment-friendly behaviour. Therefore, the concept of place attachment can help to determine the degree to which and why people act in environment-friendly ways (Ramkissoon, Weiler & Smith, 2012; Vaske & Kobrin, 2001). Place attachment has been observed in different surroundings such as homes, natural areas, cultural sites, cities, streets, recreational spaces and many more (Droseltis & Vignoles, 2010; Mazumdar & Mazumdar, 2004; Ramkissoon, Weiler & Smith, 2012).

Place attachment is a multidimensional construct which can be divided into indicators like place dependence, place identity, place affect and place social belonging (Ramkissoon, Weiler & Smith, 2012; Vaske & Kobrin, 2001). Place dependence is a form of functional attachment and indicates the importance of an area's provision of specific amenities that are necessary for desired activities (Vaske & Kobrin, 2001). For some people the physical characteristics of an area are crucial to the level of place attachment. Nonetheless, areas close to a person's home might have a higher level of place dependence, even when they are lacking in the provision of certain amenities, because they are visited more frequently and therefore the level of place dependence strengthens (Vaske & Kobrin, 2001). Place identity is a form of emotional attachment that a person can develop towards a specific place. It does not develop through a particular experience, rather through a long-term psychological investment. If a place is visited repeatedly due to place dependence, place identity can develop (Vaske & Kobrin, 2001). Place affect can be described as "…the emotional bond people share with a place" (Ramkissoon, Weiler & Smith, 2012: 260) and place social bonding is the "…interpersonal relationship that occurs in a place" (Ramkissoon, Weiler & Smith, 2012: 260). Place dependence may lead to a sense of belonging or purpose, due to symbolic importance of the place, and this in turn gives meaning to a person's life. Place identity is also considered to be a component of self-identity, which enhances self-esteem and the feeling of belonging to a community (Seamon & Sowers, 2008; Tuan, 1980; Vaske & Kobrin, 2001). This sense of belonging and purpose, as well as the enhanced self-esteem, can be linked to the multiple-satisfaction approach as the outcomes are perceived as satisfactions which can lead to benefits.

A gap exists in the academic literature on the application of the concept of place attachment and hunters' attachment to hunting destinations. This study proposes that the concept of place attachment should be used to further investigate into the hunters' thinking about their use of natural resources, since the environment in which the hunt takes place most likely has a powerful impact on how the hunt is perceived. This investigation questions hunters about their preferred hunting places and which physical characteristics contribute to the experience. Peoples' willingness to participate in conservation is strongly influenced by their level of place attachment. Therefore, conservation initiatives are quite powerful as they can establish or create new sense of place identities (Larson, De Freitas & Hicks, 2013).

2.10.3 Sense of place in the context of hunting areas

According to Tuan (1974) sense of place is associated with an emotional or affective bond between an individual and a particular place. Salwasser (1990) stated that conservation managers recognized the importance of emotional, symbolic and even spiritual value of wildlands as well as the connection between people and geographical areas. Sense of place is a construct of meanings and identities that is developed through peoples' experiences with places (Harvey, 2001; Larson, De Freitas & Hicks, 2013). Therefore, the meanings and identities that people associate with different places originate from the natural environment and usually also include a mix of natural and cultural features in the landscape. Places do not consist only of a physical setting but include a number of different human activities, processes, both social and psychological, values and meanings (Gieryn, 2000; Larson, De Freitas & Hicks, 2013; Stedman, 2002).

Sense of place is a construct used by researchers to conceptualize the relationships between humans and their environment (Larson, De Freitas & Hicks, 2013). The concept is useful for looking simultaneously at the science of ecosystems as well as their management, as it recognizes that people and ecosystems are interconnected in mutually casual relationships (Larson, De Freitas & Hicks, 2013). For one to better understand the impact hunting has on the environment it is important to consider both biophysical environment factors and aspatial cultural factors. These cultural factors reflect the meaning humans give to the landscape, also called sense of place (Read *et al.*, 2010). The concept of sense of place can therefore be used to assess the conservation thinking of hunters as it allows an assessment of the connection between hunters and their environments. No academic literature exists on the link between the concept of sense of place and the broad topic of hunting, although there is some literature on the

connection between sense of place and the hunting patterns of indigenous people (Read *et al.*, 2010) and sense of place among hunter-gatherers (Thompson, 2016). The following section introduces two theories that can be used to describe the development of conservation attitudes.

2.10.4 Assessing pro-environmental behaviour

The literature on pro-environmental behaviour can be divided into two streams, the one focussing on sociodemographic variables or the other one on sociopsychological constructs (Dietz, Stern & Guagnano, 1998). Sociopsychological constructs, such as values, attitudes and beliefs, are more useful in predicting pro-environmental behaviour than sociodemographic variables (Oreg & Katz-Gerro, 2006). This is because people's behaviour towards the environment is related to what they feel and think about their environment as well as and their pro-environmental action.

It is essential to understand the thought processes of individuals in order to understand why they act in an environment-friendly way or not (Oreg & Katz-Gerro, 2006). Two theories used to describe the development of conservation attitudes are the theory of planned behaviour (TPB) of Ajzen (1991) and the value-belief-norm (VBN) theory of Stern (2000). Ajzen's (1985) TPB is based on values and moral norms, while Stern's (2000) VBN theory is based on self-interest and rational choices (Kaiser, Hübner & Bogner, 2005). According to Oreg & Katz-Gerro (2006) the reason why most academic research and literature applies Ajzen's (1991) TPB is that it links people's attitudes to their behaviour.

In light of this study's aim and objectives, both theories can be used to assess the reasons for – as well as the level of – pro-environmental behaviour. De Leeuw *et al.*, (2015), for example, relied on TPB to help identify key beliefs underlying pro-environmental behaviour in high-school students and Stern *et al.*, (1999) applied VBN theory to analyse support for social movements regarding environmentalism. The connection between pro-environmental behaviour and hunting has been investigated by Cooper *et al.* (2015). They concluded that wildlife recreationists (hunters and birdwatchers) are four to five times more likely to engage in nature conservation (in the form of donations, advocating habitat enhancement on public lands and participation in local environmental groups) than non-recreationists.

2.10.4.1 Theory of planned behaviour (TPB)

TPB is a framework that has been applied in various contexts like leisure participation (Ajzen & Driver, 1991), sexual behaviour (Bennett & Bozionelos, 2000; Jemmott *et al.*, 2007), driving (Parker *et al.*, 1992) and pro-environmental behaviours (Botetzagias, Dima & Malesios, 2015; Cheung, Chan & Wong, 1999; De Leeuw *et al.*, 2015). The need has been noted to find a framework for comparing existing knowledge about hunting behaviour. It must allow for the integration of research findings and test different constructs of hunting behaviour models (Shrestha *et al.*, 2012). A theory that has been applied to describe hunting intention and participation is Ajzen's (1985) theory of planned behaviour (TPB) (Hrubes *et al.*, 2001; Rossi & Armstrong, 1999; Shrestha *et al.*, 2012). It is grounded on Ajzen & Fischbein's (1980) theory of reasoned action (TRA). The theory of reasoned action is based on the idea that intentions are central for describing a person's behaviour. Intentions depend on the attitude a person has toward a behaviour and the subjective norms for the behaviour. It is assumed that intentions capture a person's motivation to participate and that they reflect the level of effort a person is willing to use in order to perform the behaviour (Ajzen & Driver, 1991; Shrestha *et al.*, 2012). Ajzen (1991) included perceived behavioural control (PBC) in his model because behaviour is not always volitional, therefore making it necessary to consider how intentions can directly as well as indirectly affect the prediction of behaviour. According to the theory of planned behaviour, behaviour is based on a person's intentions to perform a behaviour and these intentions are dependent on attitudes, subjective norms and perceived behavioural control. Attitudes describe the level of willingness of a person to execute a specific behaviour. Subjective norms are linked to the perceived social pressure and they influence the decision to perform a behaviour or not. Perceived behavioural control refers to a person's ease or difficulty to perform a specific behaviour. A person's intention to perform a specific behaviour is stronger when attitudes, subjective norms and PBCs are favourable (Ajzen & Driver, 1991; Shrestha *et al.*, 2012).

Research by Rossi & Armstrong (1999), Hrubes *et al.* (2001) and Shrestha *et al.* (2012) has shown that TPB is useful for describing the intentions of hunters. These studies concluded that attitudes and subjective norms are important predictors of hunting behaviour (and more suitable than PBC) and that hunting behaviour is under volitional control (Shrestha *et al.*, 2012).

2.10.4.2 Value-belief-norm (VBN) theory

The VBN theory of environmentalism is a conceptual framework for explaining environmentally significant individual behaviour (Oreg & Katz-Gerro, 2006). The theory propounds the idea that pro-environmental behaviour stems from "acceptance of particular personal values, from beliefs that things important to those values are under threat, and from beliefs that actions initiated by the individual can help alleviate the threat and restore the values" (Oreg & Katz-Gerro, 2006: 3). Other than Ajzen's (1991) TPB in which he postulates that beliefs are the foundation of behavioural intentions which in turn are the foundation of specific behaviours, Stern *et al.* (1999) hold that environmental beliefs are the foundation of behavioural norms which then build the foundation for pro-environmental behaviours.

VBN theory complements TPB in the sense as that it shows that environmental beliefs are built on personal values (Oreg & Katz-Gerro, 2006). Stern *et al.*, (1995) emphasize the social structures which surround individuals because social structures shape individuals' experience and therefore their personal values, beliefs and behaviours too. According to Stern *et al.* (1999), VNB theory is the model that best explains pro-environmentally behaviour. The attitudes people have towards environmental issues are based on the value they place on themselves, other people or other living beings (Schultz, 2000). This leads to the phenomenon that two people can hold the same level of concern for the same thing but for very different reasons (Schultz, 2000). Stern & Dietz (1994) found three different value-based environmental concerns, namely egoistic, social-altruistic and biospheric. Egoistic concerns take place when a person values him- or herself above other people or above other living things. Social-altruistic values are based on a person's judgement of environmental issues in regard to cost or benefit to other people (this can be individuals, a neighbourhood, a social network, or even humanity). Biospheric concerns take place when people "judge phenomena on the basis of costs or benefits to ecosystems or the biosphere" (Stern & Dietz, 1994: 70). Despite the lack of academic literature on the link between hunting behaviour and VBN theory, the latter qualifies as an important tool for assessing the level of pro-environmental behaviour of the respondents in the present survey.

2.11 CONCLUSION

Chapter two provided a review of literature about the early history of hunting, different forms of hunting and hunting as a form of consumptive tourism. Furthermore, it explored arguments for and against hunting and reviewed the history of recreational sport hunting in Europe, the

USA, Australia and Africa. The chapter looked at the public discourse on hunting and presented a socioecological behaviour model to explain hunting participation. Moreover, it introduced several tools and theories that aid in gaining insight into human-environment relationships. The following chapter provides insight into the hunting industry in South Africa.

CHAPTER 3 THE LARGER PICTURE OF HUNTING IN SOUTH AFRICA

South Africa is one of the most popular hunting destinations in Africa and the country's industry offers a large variety of huntable species which attract local as well as international hunters (Damm, 2005). This chapter aims to give a general introduction to the hunting industry of South Africa and to trace the development of the country's recreational hunting industry. The economic contribution by the trophy hunting industry is sketched and an assessment is made of the extent to which recreational hunting and photographic tourism can be combined with wildlife uses on the same property. The chapter is concluded with an overview of the regulations governing recreational hunting in South Africa.

3.1 SOUTH AFRICA AS A HUNTING DESTINATION

Fruitful extensive academic research has been conducted on hunting and its impacts in southern Africa, often with a focus on South Africa owing to its popularity among trophy hunting tourists. The literature deals with topics such as the impact of hunting on local communities in Namibia (Angula *et al.*, 2018; Novelli & Humavindu, 2005), wildlife-based land uses in Botswana (Lindsey, 2008a) and trophy hunting as a form of ecotourism in Botswana (Gressier, 2014). Extensive research has been conducted by Lindsey covering trophy hunting, illegal bushmeat trade and the conservation of wild dogs in southern Africa (Lindsey, 2008b; Lindsey, Alexander, *et al.*, 2006; Lindsey *et al.*, 2012, 2013, 2016; Lindsey, Frank, *et al.*, 2006; Lindsey, Roulet & Romañach, 2006; Nelson, Lindsey & Balme, 2013).

The variety of natural landscapes and habitats, and at least 60 huntable species of mammals, make South Africa a very popular hunting destination, especially for trophy hunters (Damm, 2005; Fox & Du Plessis, 2000; Radder & Bech-Larsen, 2008). The country has a vast selection of huntable trophy hunting animals and a highly developed hunting and game ranching industry, as well as a significant number of professional hunting-related service providers. Huntable species in South Africa include the so-called Big Five, namely lion (*Panthera leo*), leopard (*Panthera pardus*), African elephant (*Loxodonta Africana*), black and white rhinoceros (*Diceros bicornis*) and buffalo (*Synceros caffer*), two antelope species such as kudu (*Tragelaphus strepsiceros*) and impala (*Aepyceros melampus*), giraffe (*Giraffa camelopardalis*), ostrich (*Struthio camelus*), warthog (*Phacochoerus aethiopicus*), hippopotamus (*Hippopotamus amphibius*) and many more. The country offers very good superstructure (accommodation), infrastructure and a broad range of activities that can accompany hunting, all of which make the country attractive to foreign tourists (Damm, 2005).

Most of the hunts take place on farms and game reserves that are privately owned (Van der Merwe, Saayman & Rossouw, 2014). A game farm is fenced-in land which contains several species that can be hunted, used for meat production or sold and it also offers photographic opportunities and/or environmental education. The farms also provide infra- and suprastructures for wildlife tourists and hunting is usually the main income for these farms. The use of wildlife on these farms can be consumptive or non-consumptive (Van der Merwe & Saayman, 2005).

According to Van der Merwe, Saayman & Rossouw (2014) most hunts take place in the Limpopo, Northern Cape and Free State provinces. Tourism Research in Economic Environs and Society (2017) claims that Limpopo, Eastern Cape and North West are the preferred hunting provinces. Whereas most hunting takes place on private land, very rarely hunting is permitted in some of the national parks in South Africa. It has been estimated that there are over 9000 game farms in South Africa, covering an area of over 21 million hectares (Saayman, Van der Merwe & Saayman, 2018; Van der Merwe, Saayman & Rossouw 2014) as well as 15 000 farms with mixed wildlife and domestic livestock that are privately owned (Patterson & Khosa, 2005). Moreover, some provincial conservation authorities, recreation areas and communities offer hunting on provincial reserves (Patterson & Khosa, 2005).

Recreational hunting is a popular activity in South Africa and people hunt for meat (biltong hunting) as well as for trophies. According to Radder & Bech-Larsen (2008) and Damm (2005), there are some 200 000 biltong hunters in South Africa, 50 000 of whom hunt regularly. Radder & Bech-Larsen (2008) assessed the motivations and values of South African biltong hunters and found that they primarily hunt for meat and not for the "sake of killing an animal" (Radder & Bech-Larsen, 2008: 252). The following section assesses the history of the recreational hunting industry in South Africa.

3.2 THE DEVELOPMENT OF A RECREATIONAL HUNTING INDUSTRY IN SOUTH AFRICA

South Africa has long been one of the forerunners in nature conservation in Africa and has provided an example for the rest of the continent to emulate (Carruthers, 1997). Hunting was practiced by South Africa's indigenous societies on a large scale but it was always bound by cultural norms and customs. After colonisation these traditional laws were ignored by the new governments. The first attempts at establishing hunting regulations in the Cape region were made by Van Riebeek in 1657 (Booth & Cummings, 2009).

The state of nature conservation varied regionally within the country's provinces (Carruthers, 1997). The first South African conservation legislation was put in place in 1658 following the penguin population of the Cape offshore islands being hunted so excessively that the reproduction rates fell below the yearly offtake so endangering the whole population. Even though this conservation legislation and other orders for a more sustainable use of wildlife products were put into place, wildlife numbers still shrunk, principally because the people who depended on wildlife for food and income did not minimize their offtake. When almost nothing was left to preserve at the mid-nineteenth century, the first wide-reaching game preservation legislation was put in place and the first game reserves were founded. The first game reserves in the Transvaal were established to accommodate hunting as a new sport, introduced by the British. These protected areas on formerly state-owned land were cut off from public access and species that were perceived as vermin were eradicated to provide more habitat for wildlife species desirable for hunting. By 1900 conservation, motivated by commercial aspirations, had been replaced by a sporting preservationist ethic (Carruthers, 1997; Van der Merwe & du Plessis, 2014; Child, Suich & Spenceley, 2008).

During the nineteenth century, hunting regulations were introduced to the colonies and Boer Republics but they had very limited success in preventing the further decline of wildlife numbers (Booth & Cummings, 2009). The Game Law Proclamation of July 1822 reintroduced the idea of vermin (wild animals that are believed to be harmful to crops and/or farm animals), specific hunting seasons as well as licence fees for hunted animals. The proclamation also granted landowners rights to wildlife and allowed travellers to hunt for food. Open areas close to Cape Town were put under protection in 1846, followed by forests in 1859. In 1886 the Act for Better Preservation of Game called for increased protection of specific species (Adams, 2004). In 1900 the legislation on game protection in South Africa was well advanced, even though wild game was extremely scarce everywhere. Africans were not permitted to hunt wildlife and race and class determined access to natural resources. Indigenous communities were dispossessed at the same time the decimation of wildlife was taking place (Carruthers, 1997).

Several major South African game reserves were established during the nineteenth and twentieth centuries, such as the Hluhlue-Umfolosi in 1895, Sabi in 1898 (later to become part of the Kruger National Park in 1926), and the Addo Elephant National Park in 1931 (Booth & Cummings, 2009). According to Taylor, Lindsey & Davies (2016), there are about 9000 game farms in South Africa, covering an area larger than 200 000 km^2 and home to between 16 and 20 million wild animals. Seeing that no new game farms or private reserves were established in

the previous century in South Africa, it is obvious that the country has experienced a sharp increase in the establishment of private protected areas. The next section reports the regulations on recreational hunting (biltong hunting as well as trophy hunting) in South Africa.

3.3 REGULATION OF RECREATIONAL HUNTING IN SOUTH AFRICA

The democratic South African government is responsible for managing the country's wildlife heritage according to the Constitution of the Republic of South Africa 1996 (Nel, 2018). Regulations concerning the management of natural resources in South Africa mostly fall under the Department of Environmental Affairs and Tourism (DEAT) and the Department of Agriculture, Forestry and Fisheries (DAFF). While DEAT is responsible for ecotourism, conservation, the development of protected areas, wildlife and the enforcement of legislation it is the responsibility of DAFF to control wildlife-related issues such as diseases as well as land and tax issues (Department of Agriculture Forestry and Fisheries, 2019; Department of Environmental Affairs, 2019).

Environmental law in South Africa is based on the environmental right and specifically on the National Environmental Management Act 107 of 1998 (NEMA) and the National Environmental Biodiversity Act 10 of 2004 (NEMBA). NEMA contains specific environmental management principles which all organs of state have to adhere to when decisions are made that concern the environment. It also provides the public with the right to make the government accountable to apply correct environmental management principles. The state has to balance its decision-making in a way that satisfies the current needs of the population while ensuring biodiversity for future generations (Gird, 2015; Nel, 2018). When current knowledge about consequences and decisions and actions are limited, NEMA has to conduct a risk-averse and cautious approach to prevent harm to the environment. NEMA and the South African legislative framework also highlight the need to consider not only impacts on biodiversity, but also those on society and the economy.

Furthermore, hunting legislation in South Africa is regulated at national and provincial levels. Each province has its own hunting proclamations, regulations and legislation which are published in the *Government Gazette* and it is each hunter's obligation to study the regulations of the province in which he or she intends to hunt (SA Hunters, 2019). Two different kinds of hunting permits are required. The one must be obtained for each hunt from the conservation authorities of the respective province. The other permit is needed if the hunt is conducted on private land, in which case the hunter must obtain a permit from the landowner. This permit

verifies that the hunter is allowed to hunt on the property and it also specifies whether the hunter is allowed to remove the hunted animal or body parts from the property. There are also additional permits issued by conservation authorities (SA Hunters, 2019). Non-residential hunters must be accompanied by a professional hunter and each hunter, non-residential as well as local, must apply for a hunting permit.

Hunting in South Africa is very popular and the country has a number of hunting associations, such as SA Hunters, the Professional Hunters' Association of South Africa (PHASA), the National Hunting and Shooting Association (NHSA) and the Confederation of Hunting Associations of South Africa (CHASA), the Custodians of Professional Hunting and Conservation (CPHC SA) as well as a number of smaller province-based associations.

In light of the issues around reputational damage (explained further in Section 3.4), it is important to note that the associations take different positions regarding the hunting of captive-bred species (in this case lions). Whereas SA Hunters strongly condemns the hunting of game that has been bred intensively or selectively for hunting, PHASA "accepts the responsible hunting of ranched lions on SAPA accredited hunting ranches within the relevant legal framework and/or according to recommendations of the applicable hunting association" (Professional Hunters' Association of South Africa, 2017). Both associations promote a code of conduct based on the principles of fair chase. Information on their codes was drawn from their websites and summarized in Table 3.1.

Table 3.1: Codes of Conduct of the hunters' associations in South Africa

Codes of Conduct	
South African Hunters and Game Conservation Association (SA Hunters)	**Professional Hunters' Association of South Africa (PHASA)**
· "we have respect for life; · we hunt with self-restraint; · we condemn killing for the sake of killing in the strongest possible terms; · we condemn any non-use of hunted game in the strongest possible terms; · we track wounded game and always endeavour to recover same;	· "To promote and participate in the conservation of Africa's natural resources with a focus on renewable resources; · To promote and protect hunting and the profession of "Professional Hunting" in South Africa; · To promote and facilitate sustainable, profitable and responsible hunting as a conservation tool that adds value to wildlife;

Continued overleaf

Table 3.1 continued

Codes of Conduct	
South African Hunters and Game Conservation Association (SA Hunters)	**Professional Hunters' Association of South Africa (PHASA)**
· we avoid public displays of hunted game; · we condemn the awarding of competition prizes for the killing of game in the strongest terms; · we keep photos of our hunts for our private collections and only publish those which show clear respect for dignity of hunted game; · we condemn pictures showing bloodied dead game or piles of dead game or of dead gamebirds"	· To promote lawful hunting; · To educate the public to the benefits of legal hunting as a management tool; · To engage with all Government structures for the purpose of creating reasonable · and implementable legislation which supports and promotes hunting as a conservation tool and which preserves the national heritage of South Africa; · To transfer professional, managerial and hunting skills to individuals; · To regulate the professional hunting environment on a voluntary basis and, · within it's "Professional Body Status" as mandated; · To lobby for the conservation of wildlife through professional hunting and hunting in general as conservation and management tools; · To promote the image of South Africa as a premier hunting destination; · To maintain its "Professional Body Status" to regulate and develop standards for · Professional Hunters; · To promote the safe and lawful responsible handling of firearms and, to · comply with its responsibilities in terms of the Firearms Control Act, 2000 (Act No. 60 of 2000) Sec 16(a), and the Firearms Control Regulations, 2004; · To develop fellowship and cooperation amongst hunters."

Source: SA Hunters (2019: s.p.); Professional Hunters' Association of South Africa (2018: 1)

This section has shown that the hunting industry is strongly regulated on a governmental level and that the hunting associations follow codes of conduct which promote fair chase to ensure the sustainability of the hunting sport. The section also revealed that the two hunting associations that form part of this study take on different positions regarding the hunting of captive-bred species. This can influence how the public perceives the hunting sport, which links to the next section in which the hunting industry's vulnerability to reputational damage is assessed.

3.4 CHANGING PERCEPTIONS: THE HUNTING INDUSTRY'S VULNERABILITY TO REPUTATIONAL DAMAGE

Over the last decade the intensive and selective breeding of game has increased in South Africa in order to produce rare hunting trophies, for example specific-colour variations. A recent study conducted by Nel (2018) for SA Hunters, assessed the risks and collateral damages that the South African hunting industry has and can face due to reputational damage. The report highlights that "People's perceptions about enterprise's performance on social, economic and environmental responsibility are critical in earning and maintaining a social license to operate" (Nel, 2018: 4). The reputation of an enterprise hinges on people's perceptions, which are not always necessarily based on the enterprise's actual character or behaviour.

Considering the burgeoning of selective breeding in South Africa, it is vital to consider the effects the changes in the public's perception can have on the industry and how this effects economic, environmental and social aspects related to the wildlife industry. The way in which wildlife breeding and hunting in South Africa is conducted is an essential part for the public's attitude toward hunting. There are several terms that describe intensive and selective breeding such as 'canned', 'captive-bred', 'tame' or 'put-and-take'. Canned hunting is "…an unfair hunt that includes hunting game that is drugged and fenced in enclosures from where they cannot escape, hunting of game that has been raised by people (tame hunting), and those disoriented that have recently been put in a new environment" (Nel, 2018: 8). Canned hunting does refer to the hunting of any species but is most popular in connection with the hunting of lions (Nel, 2018). In South Africa the shooting of lions is legal if the animal has been self-sustained for a period of 24 months. It is estimated that there are between 5920 and 8000 lions in 294 breeding facilities (Nel, 2018; Tourism Research in Economic Environs and Society, 2017). Even though the hunting of lions is legal, the public outrage at 'canned hunting' increased drastically in the late 1990s, after the BBC released the Cook Report, which showed how a wealthy client hunted

a drugged lion (*Mail & Guardian*, 1998). Another video ('Blood Lions: Bred for the Bullet') showed the practices associated with intensive lion breeding in South Africa increased the public's awareness of these ethically questionable breeding practices. Following these events there has been a growing negative perception of hunting within the public, irrespective of the type of hunting (Nel, 2018).

It is essential to understand that the perception the public has about a stakeholder and its activities can impact on the reputation of the entire value chain. In the case of South Africa, it is the selective breeding of lions that has changed the reputation of the entire hunting industry (Nel, 2018; Child & Wall, 2009). The rise of social media has made it easier for people to obtain information about the environmental and social practices of certain enterprises (Nel, 2018). As Nel's (2018) report has made clear, a small number of incidents transformed the public's opinion about the hunting industry in South Africa (e.g. the 'Blood lion' video or the shooting of Cecil the lion). The reputation of South Africa as a country offering wild natural areas bursting with free-running game has shifted towards being a hunting industry with mostly captive-bred animals which are therefore perceived as 'tame'. After the Botswana government banned trophy hunting in the country, it was expected that numbers of international hunters coming to South Africa would increase, but that did not happen (Mbaiwa, 2018a). Instead, Namibia surpassed South Africa in terms of the numbers of international hunting visitors. The decline in tourist numbers in South Africa, caused by a change in the industry's reputation, had major impacts on conservation and the socioeconomic contributions of hunting. The number of international hunting tourists has been decreasing for years (9138 in 2011 vs 6539 in 2016) (Nel, 2018) and between 2014 and 2016 the country lost around R288 million in direct income from trophy hunting (Tourism Research In Economic Environs and Society, 2017).

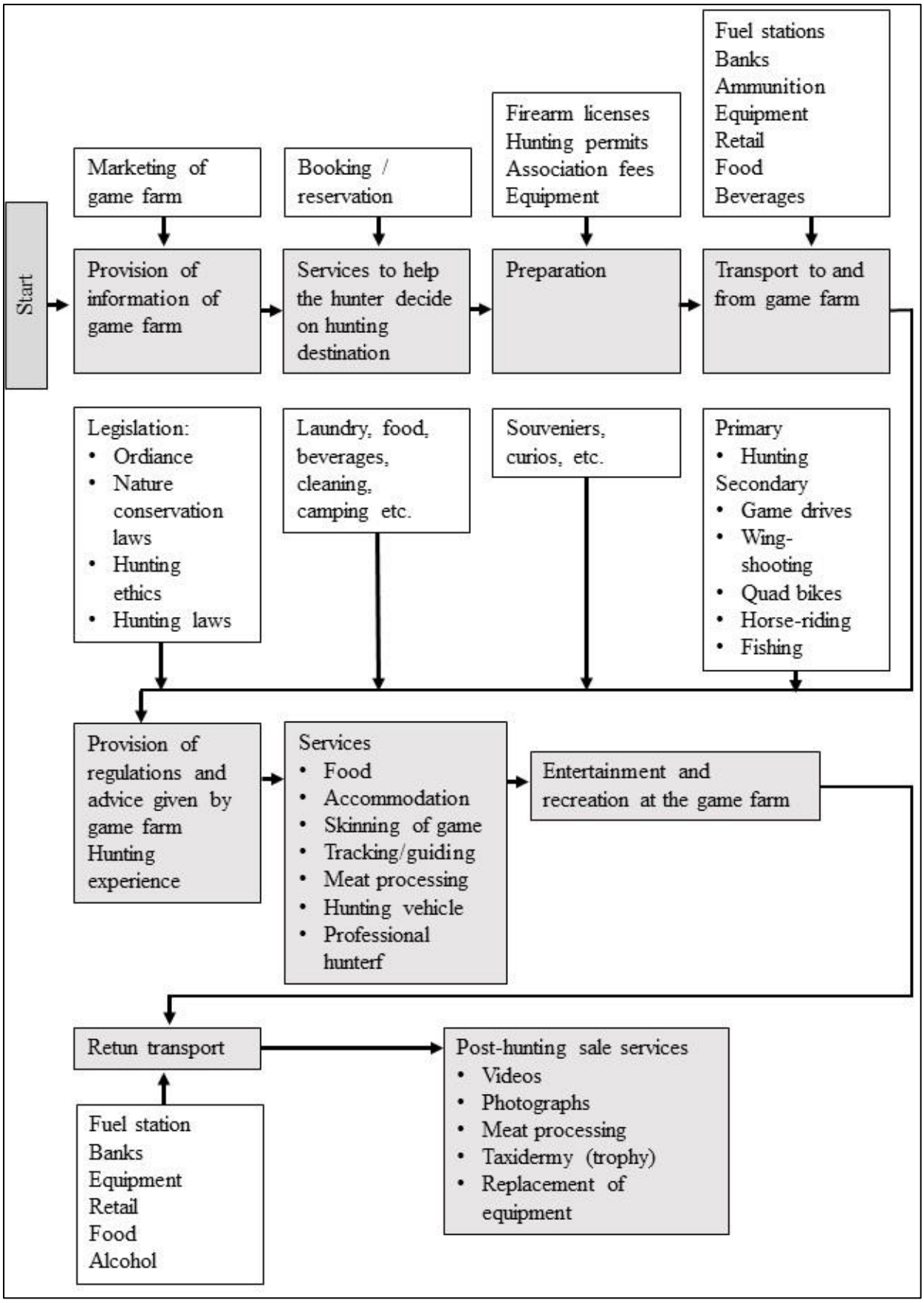
Irresponsible hunting practices and the hunting of intensively bred species, especially lion, can engender reputational damage through the negative stakeholder perceptions and it can pose an economic risk to the hunting and ranching and/or breeding sectors, thereby increasing the social, economic and conservational risk for the broader wildlife industry (Knezevic, 2009; Nel, 2018). When hunting – often used as a viable and responsible land-use activity – suffers from reputational damage, bans and restrictions by governments or big companies might be set in place which will adversely affect socioeconomic development opportunities in rural communities (Challender & Cooney, 2016). The reality of increasing negative perceptions of specific hunting practices in South Africa (in the case of hunting captive-bred lions) is evident in the bans and restrictions by governments and the reactions by large companies such as banks (e.g. Nedbank refused to finance any activities related to the captive breeding of mammalian

predator species) or airlines (e.g. British Airways, Emirates and Lufthansa who refused to transport hunting trophies). The latter restriction made it more difficult for international tourists to take their trophies back into their countries and led to a further decline in hunting tourism in the country (Nel, 2018). It is vital to acknowledge that negative perceptions about one subsector of the wildlife industry can profoundly influence the sustainability of another subsector in the same value chain (Nel, 2018). The following section provides an overview over the economic contribution of hunting in South Africa.

3.5 ECONOMIC CONTRIBUTION OF HUNTING IN SOUTH AFRICA

In this section the economic contribution of hunting is distilled from secondary sources. One of the biggest revenue creators, as well as one of the main drivers for sustainable development in South Africa, is the tourism industry and owing to the wide variety of huntable species in South Africa, the country is an attractive hunting destination for both local hunters and international trophy hunters (Damm, 2005; Goessling, 2000; Higginbottom, 2005; Lindsey, Alexander *et al.*, 2009; Saarinen, 2016; Saayman, Van der Merwe & Rossouw, 2011). Economic impact can be defined as "…the net economic change in a host community resulting from tourist spending in a given area" (Van der Merwe, Saayman & Rossouw 2014: 380). The economic impact of tourism depends on the total number of tourists (hunters in this case), the number of days of their stay, the average amount that they spend at the destination and the circulation of the expenditure at the destination (Van der Merwe, Saayman & Rossouw, 2011; Van der Merwe, Saayman & Rossouw, 2014).

Each year many people participate in hunting activities in South Africa. During their stay they spend money on hunting permits, accommodation, hunting equipment, guns and ammunitions, clothing, the processing of the hunted animals as well as on food and beverages (Saayman, Van der Merwe & Rossouw, 2011). Many studies have assessed the economic contributions of biltong hunting and/or trophy hunting in southern Africa, for example Damm (2005), Van der Merwe & Saayman (2007), Samuelsson & Stage (2009), Saayman, Van der Merwe & Rossouw (2011), Van der Merwe, Saayman & Rossouw (2011, 2014), Murray (2017), Tourism Research in Economic Environs and Society (2017) and International Union for the Conservation of Nature and its Resources (2009). Fundamental to these assessments is the value chain of hunting. Figure 3.1 illustrates the structure of this value chain.



Source: adapted from Van der Merwe & Du Plessis (2014:)

Figure 3.1: The value chain for hunting

An assessment on the economic contribution of the hunting industry in eight Eastern and Southern African countries (South Africa, Namibia, Zimbabwe, Botswana, Ethiopia, Mozambique, Tanzania and Zambia) has been conducted by Southwick Associates (2015). It revealed that South Africa attracts the greatest number of foreign hunters yearly (Southwick Associates, 2015). According to this assessment, hunters spent US$ 141.2 million during their hunting trips and trophy hunting contributed US$206 million to the South African GDP between 2012 and 2014. They also reported that about 12740 full- and part-time jobs were created (Southwick Associates, 2015).

These numbers have been strongly disputed by Murray (2017) who claims that the actual monetary contribution of the trophy hunting industry to the economy, the jobs provided and the conservation benefits were much less. Southwick Associates (2015) estimated an economic benefit of US$426 million to the economies of the eight assessed case studies. Murray (2017) disagrees with this number and estimates a contribution of only US$132 million for the eight countries. He also estimates the total number of job opportunities provided by hunting in all eight countries to be between 7500 and 15500 instead of about 53000 estimated by Southwick Associates (2015). It appears likely that the US$206 million as well as the 12740 jobs created in South Africa are probably also less then what was estimated by Southwick Associates (2015).

Murray (2017) contends that Southwick Associates' research overestimates the impact of trophy hunting. He supports his claim with the argument that the figures do not account for the existence of alternative land uses because it assumes that trophy hunters would not visit the countries if there was no option to hunt and that they do not engage in any non-trophy hunting activities. Murray (2017) also emphasizes the importance of assessing the *marginal* economic benefit of trophy hunting. This refers to the benefits that hunting has over alternative uses of the land, wildlife and labour. Murray (2017) avers that marginal economic benefit is not well known and has not been studied empirically. He maintains findings as reported by Southwick Associates is based on information provided by pro-trophy hunting organisations which show the estimates of gross economic activity associated with hunting in order to promote their view and that trophy hunting is a valuable source of income because of its economic value.

The aforementioned assessments underline the fact that estimates of the economic contribution of the hunting industry can vary widely. Moreover, most reports do not provide a clear and useful indication of what exactly was assessed and which factors were taken into account. In this study, data provided by Saayman, Van der Merwe & Saayman (2018) will be relied on. Their research is part of the Tourism Research in Economic Environs and Society (TREES)

efforts at North West University and centres on assessing the economic impacts of various events and activities in South Africa. This report is the most recent one, the authors also share extensive experience in assessing economic contributions and the report offers valuable insights into how the assessment was conducted. They assessed the impact of the trophy hunting industry on the South African economy by applying economic modelling techniques to assess spill-over effects on other economic sectors. They found that almost half (40%) of the money is spent on buying permits for the hunted game. The most frequently hunted species are impala, warthog and springbock, and a hunter typically hunts 10 animals per trip to South Africa and spends an average of US$28 270 per trip. They multiplied this amount by the total number of trophy hunters (7600) that came to South Africa in the 2015/2016 hunting season and estimated that trophy hunters spent US$214.851 million on their hunting trips to South Africa. This amount includes airfares, and when these are excluded (in order to assess the impact on the economy of the destination) the figure is about US$176 million. Considering the average exchange rate, Saayman, Van der Merwe & Saayman (2018) conclude that the trophy hunting industry generates a total of about ZAR2526 million for the South African economy. This caused an increase of ZAR1897 million (US$132 million) in the production of hunting-related goods and services. Their study estimates that the total impact of trophy hunting on the south African economy is ZAR5390 million (or US$376 million). The economic contributions of biltong hunting vary between ZAR0.65 billion (Taylor, Lindsey & Davies, 2016) and ZAR3.1 billion (Radder & Bech-Larsen, 2008). Various other estimates of the economic contributions of hunting are given in Table 3.2.

Table 3.2: Economic contributions of meat hunting and trophy hunting in South Africa

Year	Contribution	Source
Meat Hunting		
2005	ZAR 3.1 billion	Van der Merwe, Saayman & Rossouw (2011)
2007	ZAR 4.4 billion	Van der Merwe, Saayman & Rossouw (2011)
2011	ZAR 6 billion	Van der Merwe, Saayman & Rossouw (2011)
Trophy Hunting		
2006	ZAR 331 million	Van der Merwe, Saayman & Rossouw (2011)
2012	ZAR 807 million	Rademeyer (2015)
2013	ZAR 1 billion	Rademeyer (2015)

According to Saayman, Van der Merwe & Saayman (2018) the trophy hunting sector also supports around 17 700 jobs in South Africa, with almost half of them being employed in the agricultural sector. This is significant, since agricultural activities are usually in rural areas where employment rates are generally low and job opportunities are desperately needed (Saayman, Van der Merwe, Saayman, 2018). If the number of hunters spending money on hunting trips to the hunting areas will increase, it will in turn engender more job opportunities and generate income for local communities. The demand by the hunters will lead to increases in services and products supplied by farmers and other businesses, which will improve infrastructure (such as roads, water supply, shops and electricity) in and around hunting areas (Van der Merwe, Saayman & Rossouw, 2014).

This section has revealed that the hunting industry contributes largely to the South African economy. The following section will explore the compatibility of recreational hunting tourism and photographic tourism.

3.6 COMPATIBLE WILDLIFE USE: COMBINING RECREATIONAL HUNTING AND PHOTOGRAPHIC TOURISM

The question is explored next whether consumptive tourism (recreational hunting) and non-consumptive tourism (photographic tourism) can be conducted side by side on the same property. Evidence from a case study done in each of the two national parks in South Africa is used. It is commonly assumed that these two activities cannot be combined, as they have detrimental affects on each other. There are however indications in the literature that their combination is feasible if management adheres to specific rules (Damm, 2005; Davies, Hamman & Magome 2009; Funston, Groom & Lindsey, 2013). Successful combination of the two tourism forms can be jeopardized and limited by poorly regulated or unethical hunting and poor communication between and intolerance by both sides. But there are cases in which co-management has been successful (Damm, 2005). Davies, Hamman & Magome (2009) studied two South African protected areas to assess if these two seemingly exclusive forms of land use can take place on the same property. The two study areas are the Pilanesberg National Park and the Madikwe Game Reserve – both located in North West province and both established on what used to be cattle farming grounds. The co-management of hunting and photographic tourism can provide protected areas with several benefits. Protected areas are generally limited in space and are, especially in the case of Pilanesberg and Madikwe, located close to densely populated areas. To ensure the long-term survival of the animal species, protected areas must

be carefully monitored and managed. This is very costly and hunting is an appropriate means to make use of those areas in the protected areas that are not suitable for photographic tourism (e.g. a lack of accessibility). This zoning of protected areas can either be geographical or according to different times (weekdays, months of the year). The compatibility of these two tourism forms is primarily dependent on the topography of the area. Pilanesberg, for example, has a mountainous terrain, which makes some areas of the park inaccessible to tourists. The valleys of the area do however create an ideal hunting terrain in which the danger of stray bullets or ricochets is minimized. Madikwe, on the other hand, is relatively flat so that large parts of the area have to be closed off to provide safety for other guests. This limits the effectiveness of co-managing and results in disagreements between hunting operators and photographic tourism operators (Davies, Hamman & Magome, 2009). Other sources describe cases in which the mixed-use approach was unsuccessful and trophy hunting was stopped to focus exclusively on ecotourism because the hunting limited the expansion of higher-value ecotourism, for example the Zululand Rhino Reserve in KwaZulu-Natal (Taylor, Lindsey & Davies, 2016). Damm (2005) has formulated key points that must be complied with to increase the compatibility of the two tourism forms. He stresses the importance of limiting the number of hunts and promoting adherence to appropriate hunting protocols to minimize any disturbance of animals. To avoid visual or auditory hindrances to the photographic tourists, the hunting areas should be temporally or spatially zoned. The stipulations also emphasize the need for separate accommodation for hunters and game-viewing tourists, as well as discrete management of the carcasses and slaughtering facilities. Furthermore, hunting and ecotourism staff should adhere to strict protocols in order to avoid an overlap of activities (Damm, 2005).

This chapter has provided an introduction to the hunting industry of South Africa and traced the development of the country's recreational hunting industry. It also provided an overview of the hunting regulations in South Africa. Furthermore, it reviewed how changing perceptions of the public can impact the industries vulnerability and it sketched the economic contribution by the trophy (and meat) hunting industry. Lastly, it assessed the extent to which recreational hunting and photographic tourism can be combined on the same property. The following chapter will present the descriptive statistics and the visualizations of the results of this study's survey.

CHAPTER 4 ANALYSIS AND DISCUSSION OF RESULTS

This chapter presents the descriptive statistics and graphic representations of the questionnaire survey among members of two hunting associations to help explain the geography of hunting in South Africa as well as the hunters' perceptions of and attitudes to their recreational hunting activities and their contribution to wildlife conservation in general. The chapter is structured around four of the research objectives. Information collected with an online questionnaire survey is used to create a profile of the South African hunters. Also, their environmental, recreational and conservational reasoning regarding their hunting preferences and activities is assessed (Objective 3). The hunters' geographical origins and their hunting destinations are mapped (Objective 4). Then the environmental, recreational and conservational reasoning of South African hunters regarding their hunting preferences and activities are assessed (Objective 5). The chapter ends with an analysis of the respondents' thinking about ethical hunting behaviour with special attention given to the respondents' attitudes to the sharing of hunting photographs on social media (Objective 6).

This chapter is based on primary-sourced information collected in an online questionnaire survey. To help explain and interpret the results the secondary-sourced information from Chapter 2 is also drawn into the examination. The mixed methods approach used in this study is based on descriptive analysis, so that the survey results are presented visually and then analysed narratively to distil deeper insights out of the respondents' thinking. The questionnaire provided quantitative and qualitative primary data. Most of the questions in the survey required respondents to answer on Likert-scales by choosing one of five categories to indicate their level of agreement, level of importance or frequencies. These results are given as bar charts which indicate the percentage of respondents.

4.1 Profiling hunters

This section sketches the demographic profile of the surveyed hunters and deals with the frequency of hunting trips; whether hunters prefer to hunt alone or in groups; and whether they see themselves as recreational or professional hunters. Moreover, the respondents' experience and the reasons why they go on hunting trips are explained. The gender and level of education of the respondents have been compared with the mean scores of the hunters' reasons to go hunting; the factors that are important to the hunters when choosing a place to hunt and statements which aimed to find out more about their general environmental awareness.

4.1.1 Age, level of education and gender of the hunters

Figure 4.1 plots the age groups of the hunter respondents. The largest group falls in the 45 to 55 cohort with almost one third, followed by about one quarter in the 56 to 65 group. Few of respondents were younger than 25 years or 76 and older. Less than one fifth of the respondents are either 25 to 35 years or 36 to 44 years. Just more than ten percent were older than 66.

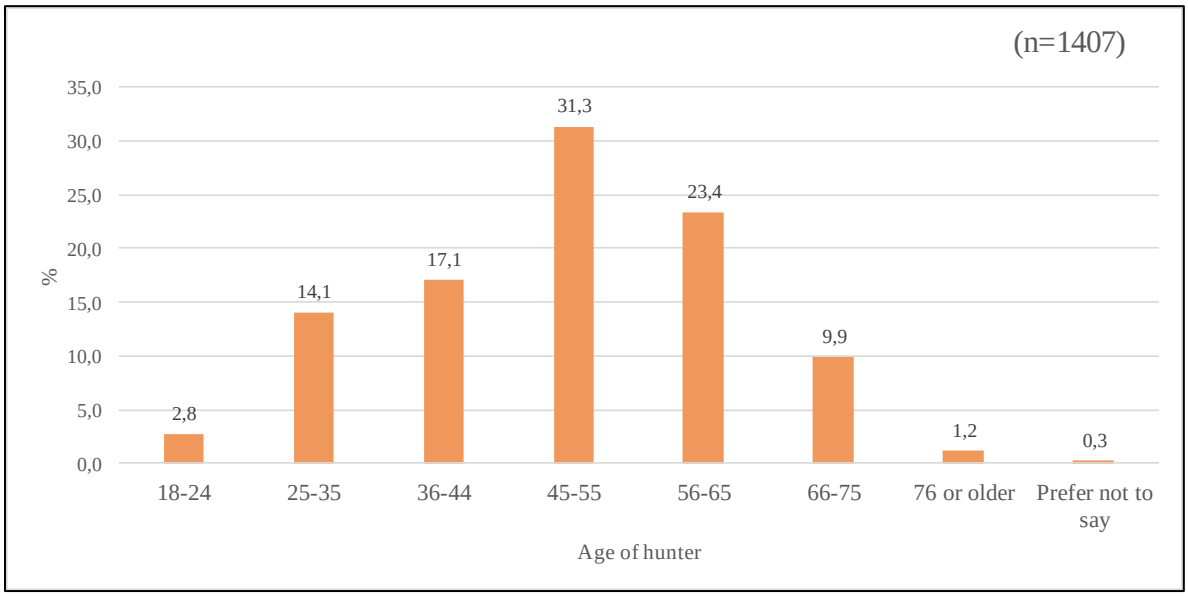


Figure 4.1: Age of hunter respondents

The level of formal education attained by the respondents is predominantly (four out of five) tertiary and about 13% of the respondents have a high-school education. The proportions of those with only a primary education or those who did not respond are negligible. These high percentages of tertiary education were expected as hunting is an expensive sport and therefore often conducted by higher educated as they have a higher income.

A clear majority (96%) are male and the balance females. Hunting is generally a male-dominated activity, but there is evidence that while the total number of hunters in some countries (e.g. in the USA or Sweden) is generally decreasing, numbers of female participants are increasing (Metcalf *et al.*, 2015; Ryan & Shaw, 2011).

Two thirds of the respondents were older than 45 years and older and the vast majority have attained a high level of education. It is reasonable to assume that this older and well-educated group of people is the most financially stable. Harper *et al.* (2012) have claimed that members of American hunting associations generally have a higher level of education to non-members. Peterson *et al.* (2010) have remarked that although a century ago trophy hunting was done by

wealthy individuals, this has changed and today increasingly higher numbers of less affluent people participate in trophy hunting.

4.1.2 Assessment of the hunters' preferences

To eventually better understand the hunters' reasoning and to gain an idea of their hunting experience, this section looks at the respondents' hunting preferences regarding frequency of hunting trips (for meat as well as trophies); whether they prefer to hunt in groups or alone; whether they are recreational or professional hunters; the reasons why they hunt; and the factors important to them when deciding on a destination where to hunt.

4.1.2.1 Frequency of hunts

Almost all (99%) of the respondents had been hunting for meat within the foregoing 10 years. As Figure 4.2 shows, more than half of the hunters go on one to two meat hunting trips per annum and just under one third go on three to four trips yearly. High frequencies (five or more hunting trips per year) were recorded by less than 10% per year. Regarding trophy hunting trips only 30% of the respondents stated that they had been trophy hunting in South Africa the previous 10 years. From Figure 4.3 it is clear that the majority of respondents do not hunt for trophies and 17% do not hunt for trophies very frequently (less than once a year). Ten per cent of the respondents hunt for trophies once or twice a year and less than 2% hunt 5 or more times a year.

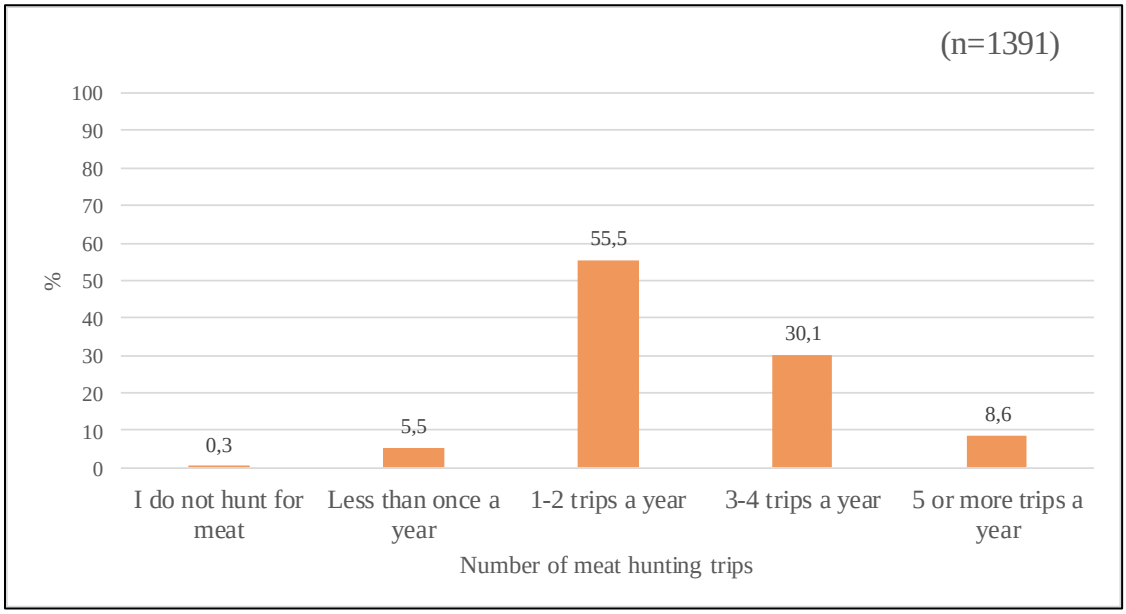


Figure 4.2: Annual frequency of meat hunting trips

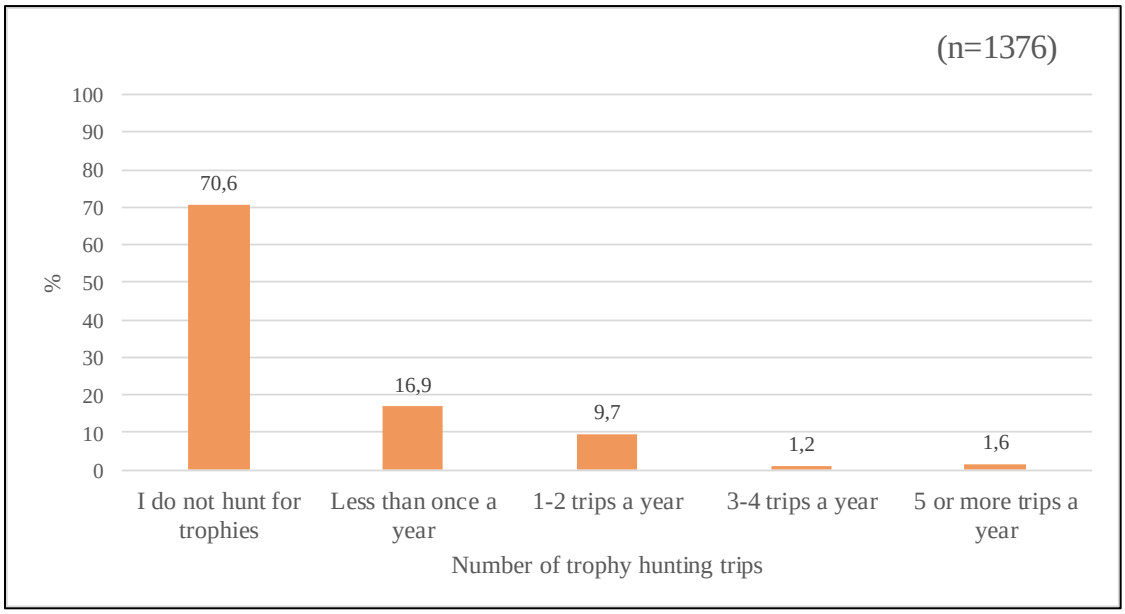


Figure 4.3: Annual frequency of trophy hunting trips

In the following subsection the preferred hunting company of the respondents as well as their type of hunter will be introduced.

4.1.2.2 Preferred hunting company and type of hunter

The respondents were asked about the hunting company they prefer. Almost half (47.6%) of the respondents usually hunt as a part of a group while 42.8% prefer to either hunt alone or be part of a group. Hunting alone is not a popular choice (9.6%). The findings about group hunting (social aspect of hunting) concur with those of Larson *et al.*'s research done in 2014, that hunting is a very social activity. Arnett & Southwick (2015) support this by pointing out that hunting is often done with friends, family or colleagues and hunting traditions are passed down to next generations through family and community networks. Eight per cent of the respondents are professional hunters who by definition are usually accompanied other hunters on their trips. The balance of respondents are recreational hunters. The proportion of professional hunters is quite likely too high given that the questionnaire was distributed via the Professional Hunters Association of South Africa, an association exclusively for professional hunters.

4.1.2.3 Reasons for hunting

The respondents were asked to rate how often they went hunting for ten different reasons. The results are given in Figure 4.4. The three most important reasons are to be in nature, for the meat of the shot animal(s) and for the enjoyment of the hunting sport. Supporting nature conservation was rated fourth highest as a reason always considered. Two reasons in close fifth and sixth places are hunting being part of the respondents' culture and the possibility to test the hunter's ability as a hunter. If the 'Always' percentages of less than 50% are combined with the 'Often' scores the daily chores and stress is a common motivation to go hunting. Radder & Bech-Larsen (2008) found that social reasons and to be outdoors are the main motivators for South African hunters, both agreeing with the findings of this study other than the gathered meat which appears to be more important than the social aspects.

It is again clear that trophy hunting was not an important incentive for the respondents to hunt. With three out of four of the respondents never or rarely going on a hunt to shoot a trophy. Two telling findings are that hunting does not function as a means of entertainment with nearly three out of five never or rarely seeing it as a reason and that recreating a sense of the past as a motivation to go on a hunt was rated by 50% of the respondents as 'Never' or 'Rarely' a reason for them and another 19% only did so 'Sometimes'. The latter finding does not concur with that of Lovelock (2008b), who suggested that recreating a sense of the past is often a motivation to go hunting.

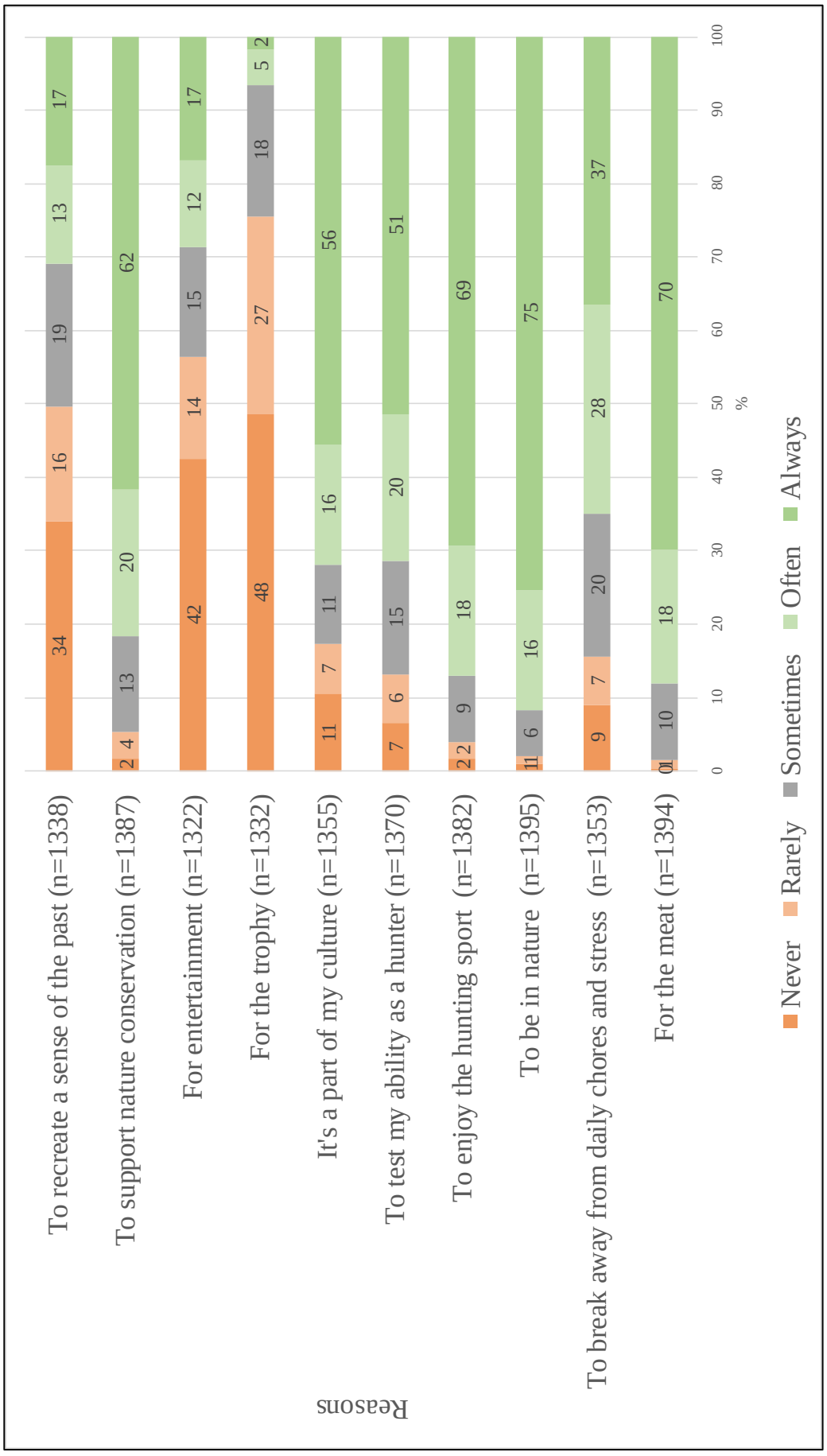


Figure 4.4: Reasons the hunters hunt

Statistical exercises with ANOVA were performed to aid determining the relationship between the respondents' level of education and reasons to go hunting[6]. ANOVA calculates the differences of the group means between the level of education and all the reasons rated to go hunting. The results are shown in Figures 4.5 to 4.7 for the three reasons that produced statistically significant results. It was found that respondents with a tertiary education are more likely to go hunting for meat than people with only a primary or secondary education (p=<0.01) (Figure 4.5). Respondents with a tertiary education also rated breaking away from daily chores and stress significantly more often (p=0.01) than these with lower levels of education (Figure 4.6). The wish to be in nature was also more significant for respondents with a tertiary education than those with lower levels (p=<0.01) (Figure 4.7). No significant results were obtained for gender and any of the reasons to go hunting. Ryan & Shaw (2011) found that women have different motivations to hunt than men, more specifically that American women are twice as likely to report that they hunt for meat and two-and-a-half times as likely to go hunting to spend time with family and friends.

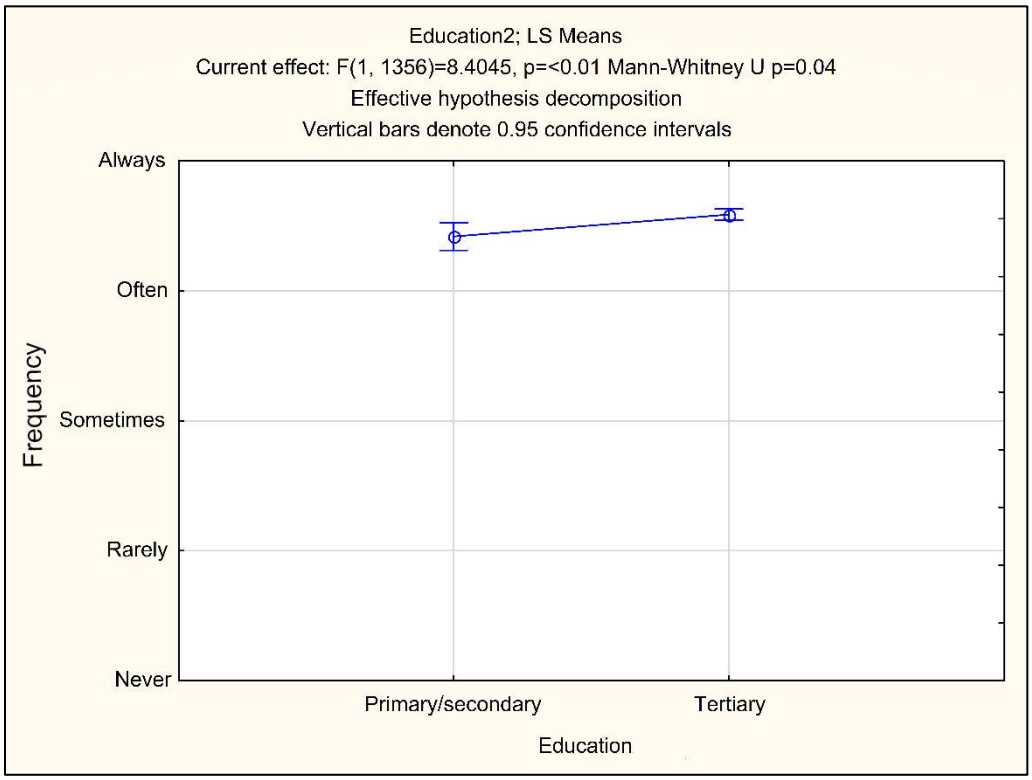


Figure 4.5: Level of education and acquiring meat as reason for hunting trip

[6] The significance of a result can be determined with the help of the p-value. The p-value is a number between 0 and 1. If the value is <0.05 it can be assumed that the result is significant.

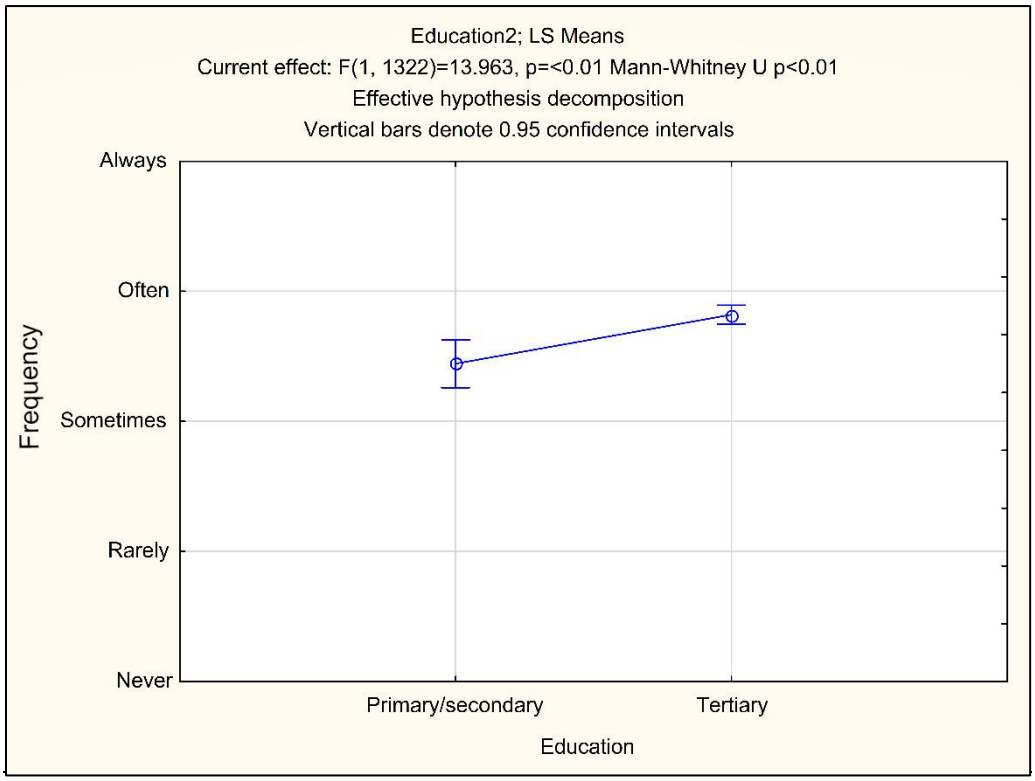


Figure 4.6: Level of education and breaking away from stress and chores as reason for hunting trip

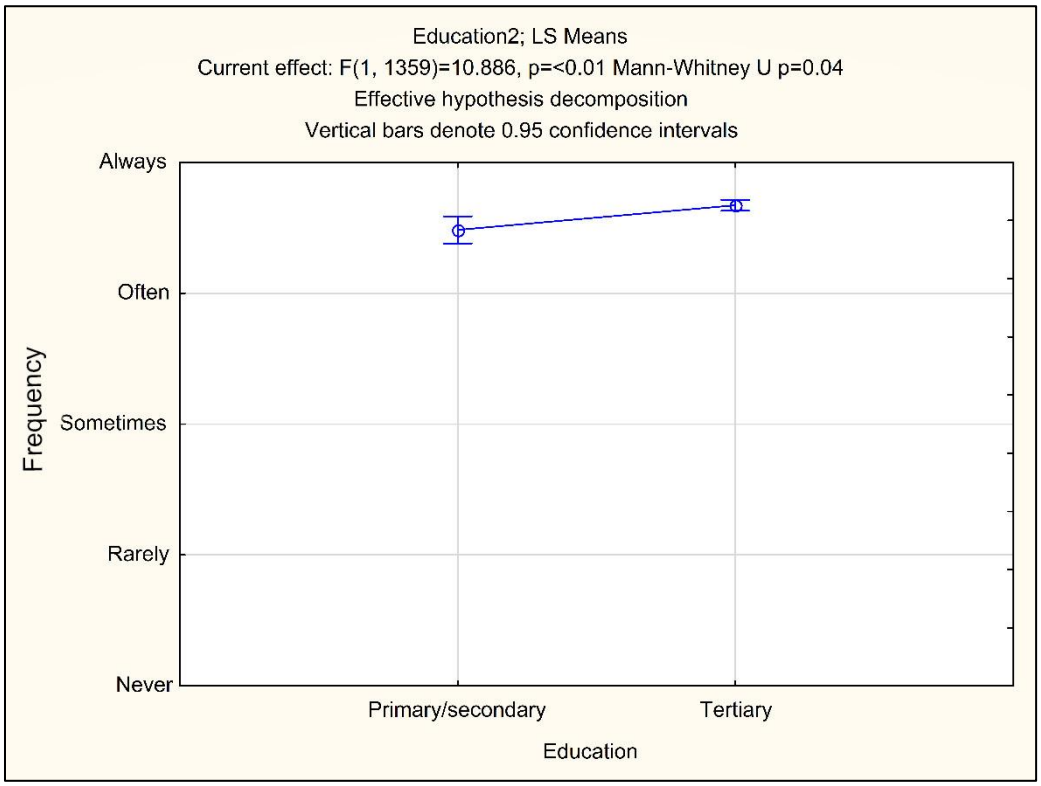


Figure 4.7: Level of education and wanting to be in nature as reason for hunting trip

The following subsection will address the various factors that influence the hunters' decision when choosing a hunting destination.

4.1.2.4 Choosing a hunting destination

Since the first objective of this study is to assess the geography of hunting in South Africa, respondents were asked to rate how important specific factors are to them when looking for a place to hunt. The results depicted in Figure 4.8 clearly reveal that the possibility to shoot trophy animals and the quality of the trophy were both given high (60%) ratings of no importance at all. This is to be expected since 71% of the respondents are not trophy hunters. The facilities at the hunting grounds seem to have a relatively low level of importance if the 'Not important at all' and 'Slightly important' ratings are combined. If the 'Very important' and 'Important' rating percentages are combined three factors stand out, namely the quality of the meat (88%), the price for the animal (79%) and the location of the hunting grounds (75%). Furthermore, the type of biome (68%) and the variety of game (62%) at the hunting destination had high rankings of importance.

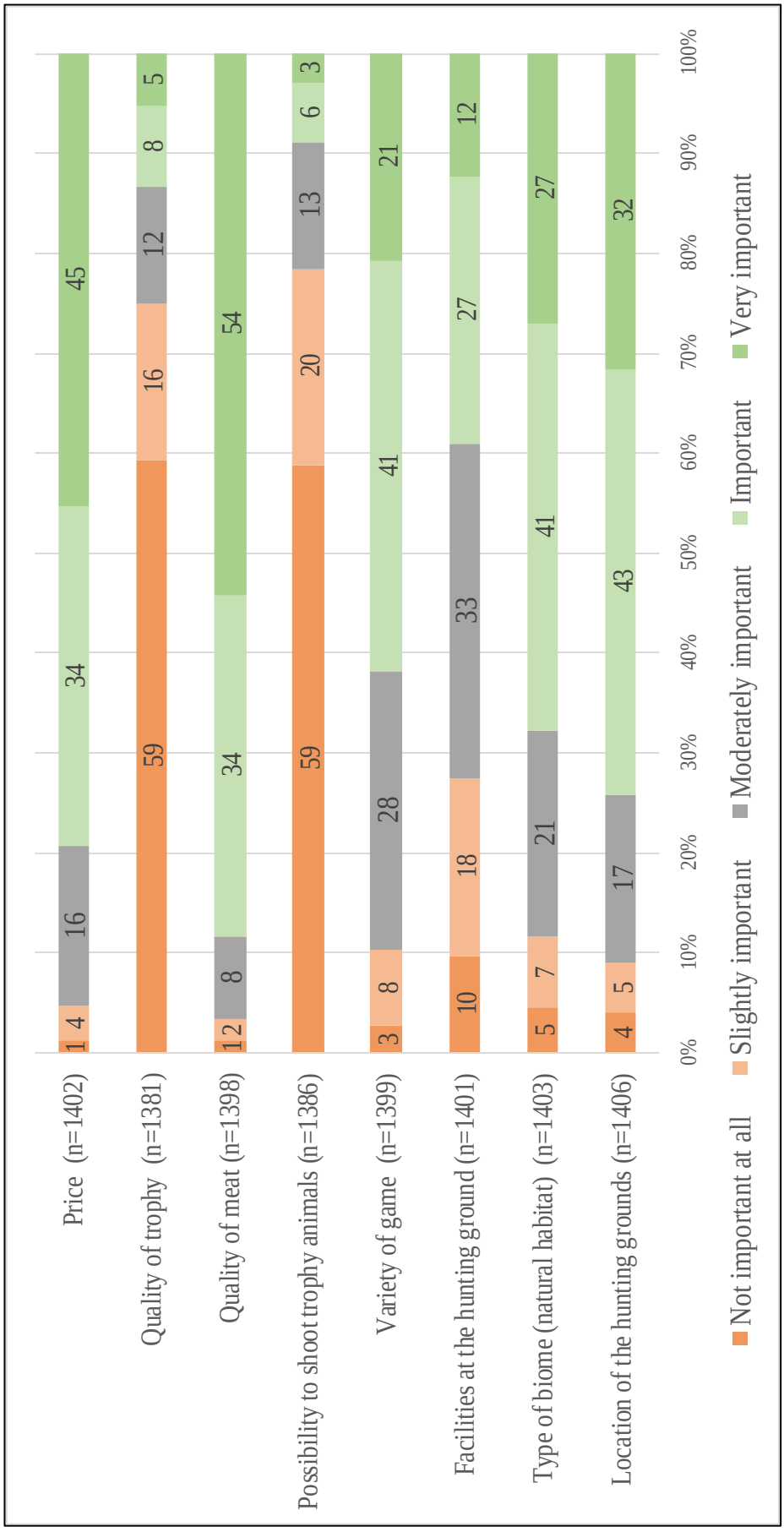


Figure 4.8: Importance of factors determining the choice of a hunting destination

Variance analysis was performed to determine any significant relationships between the factors involved in looking for a place to go hunting. The results show that the location of the hunting destination (p=0.04) (Figure 4.9) as well as the type of biome (p=<0.01) (Figure 4.10), the facilities at the hunting grounds (p=0.01) (Figure 4.11) and the variety of game (p=0.01) (Figure 4.12) are more important to the female respondents then to the male respondents. For all other factors were no increased significances on differences on responses from female or male hunters found.

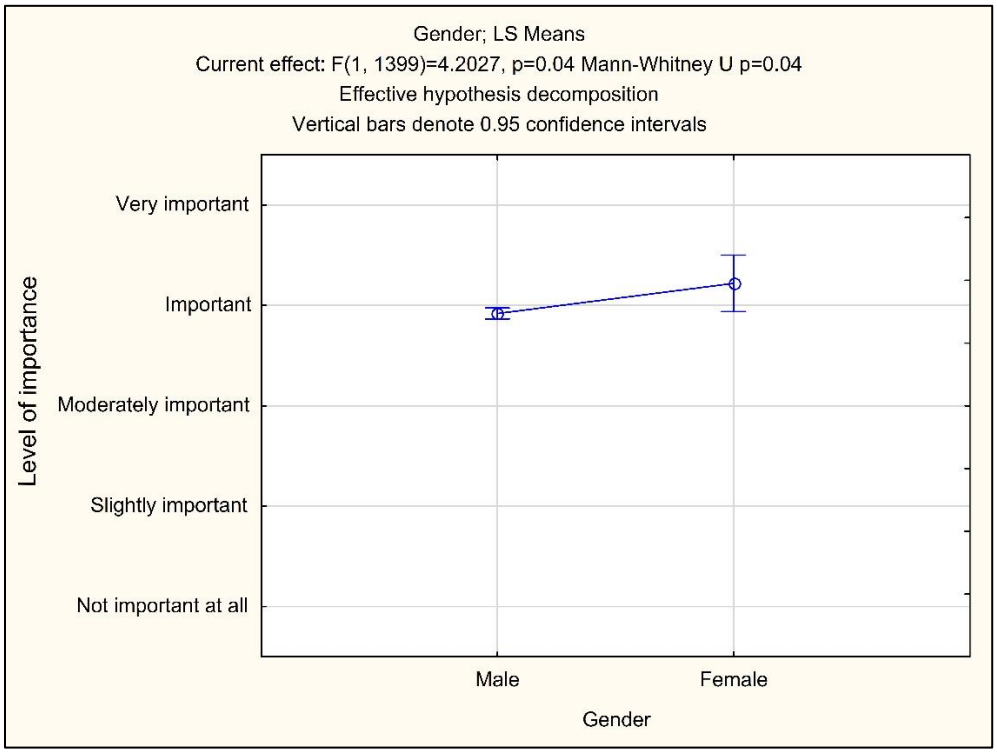


Figure 4.9: Gender and location of the hunting ground as a factor for choosing a specific destination

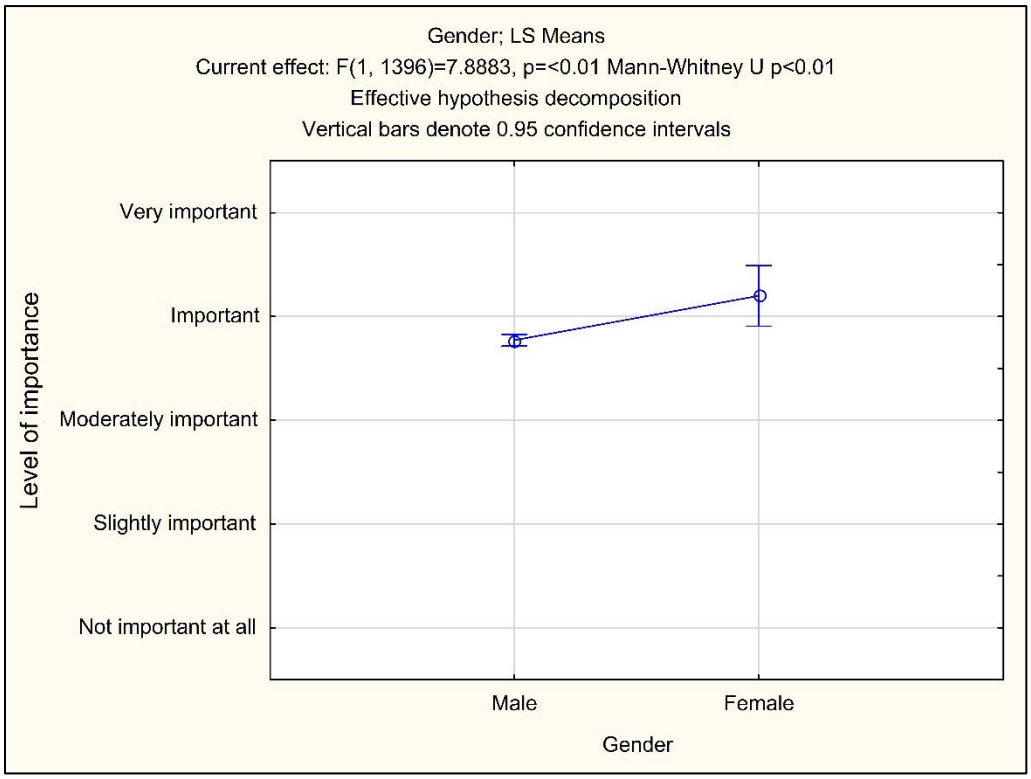


Figure 4.10: Gender and type of biome as a factor for choosing a specific destination

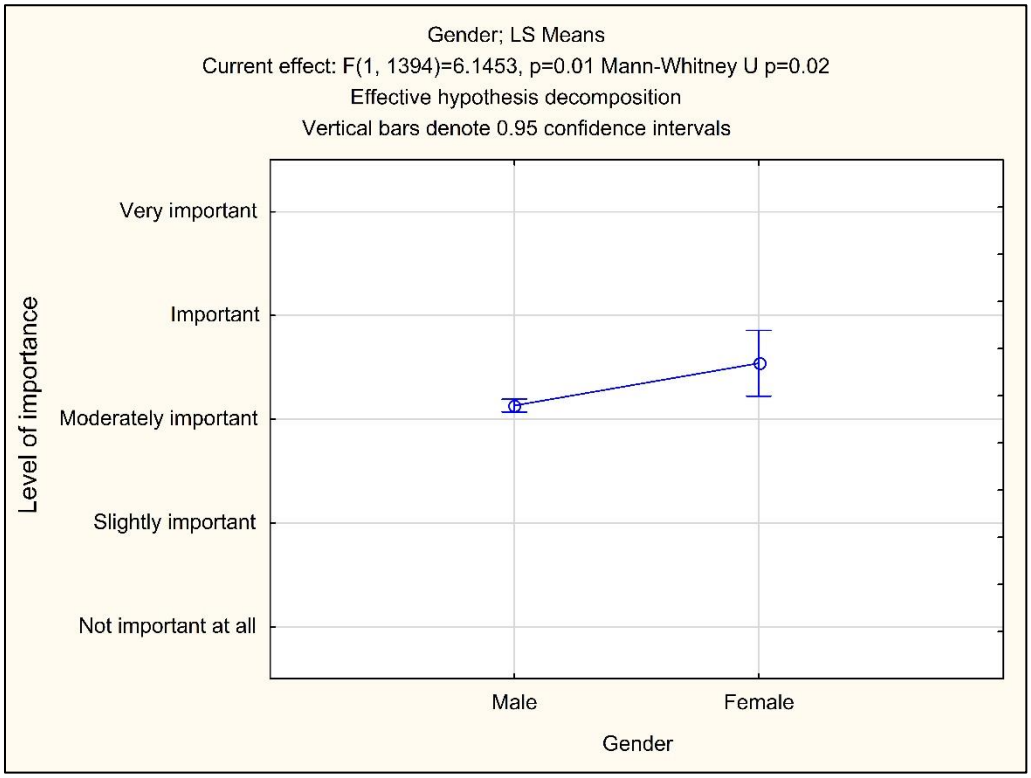


Figure 4.11: Gender and facilities at destination as a factor for choosing a specific destination

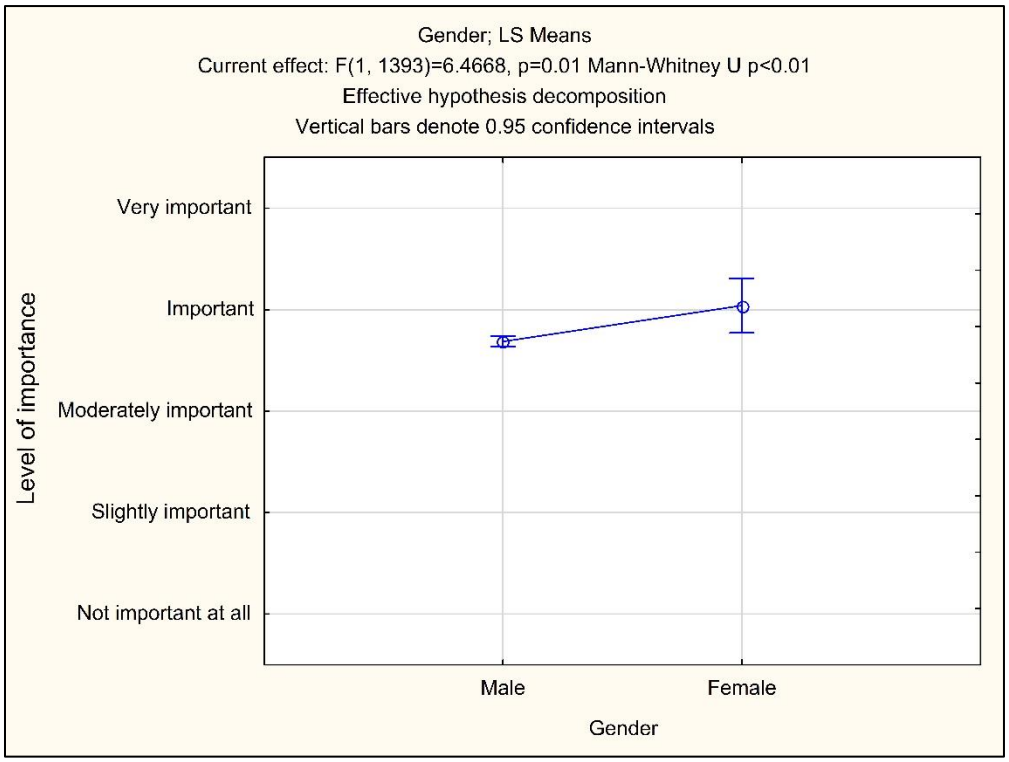


Figure 4.12: Gender and variety of game as a factor for choosing a specific destination

The relationship between the level of education and the various factors that play a role in the choice of a hunting destination was also assessed using ANOVA. The results are shown for the level of education and the location of the hunting ground (Figure 4.13) and for the type of biome (Figure 4.14). Respondents with a tertiary education perceived the location of the hunting ground (p=<0.01) as well as the type of biome at the hunting destination (p=0.07) as more important than the respondents with a primary or secondary level of education.

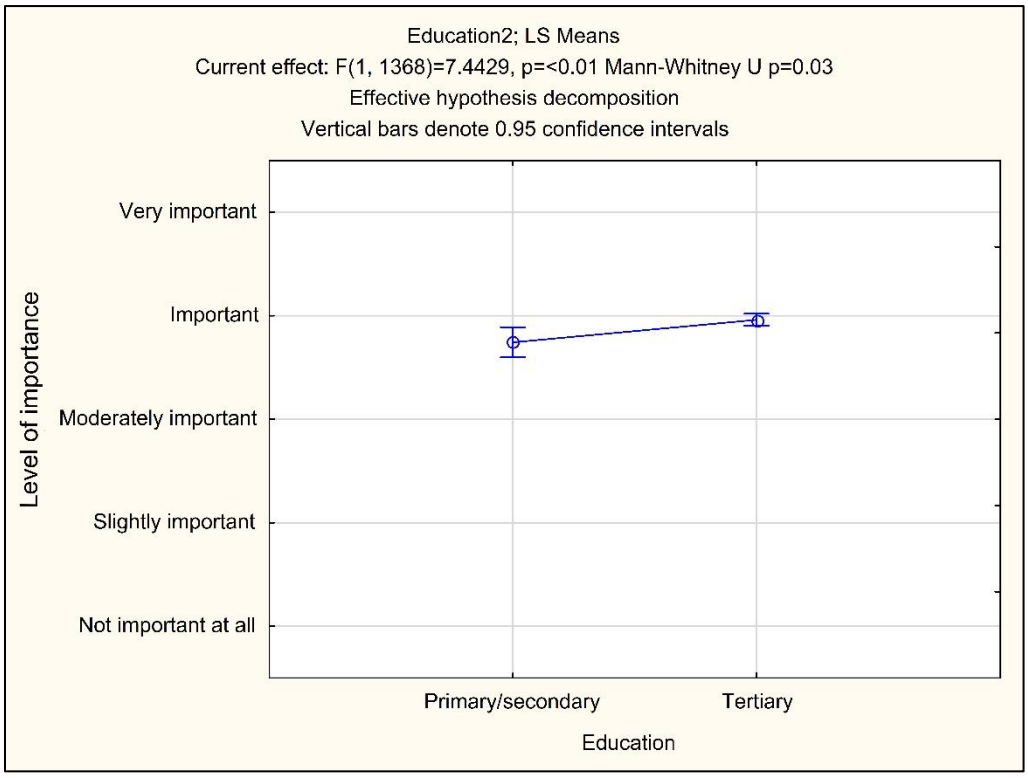


Figure 4.13: Level of education and location of hunting ground as a factor for choosing a specific destination

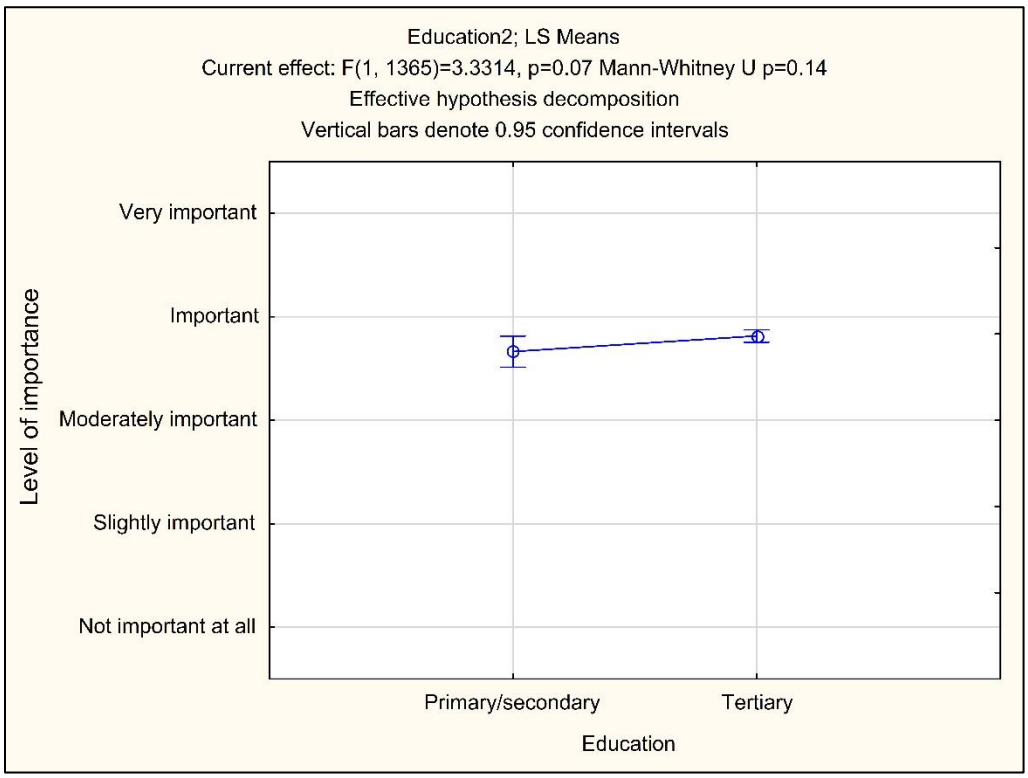


Figure 4.14: Level of education and type of biome as a factor for choosing a specific destination

The analysis of the mean scores of the respondents' age and the factors for choosing a hunting destination produced no statistically significant results except for one raised significance between the age of the respondents and the role that the price of a hunt plays when choosing a hunting destination. The older the respondent, the lower they rate the importance of the price of the game (Pearson: -0.14 / Pearson p-value: <0.01).

4.1.3 Conclusion

The foregoing discussion of the results revealed that most of the hunters are males, aged between 45 and 55 years old and have a high level of education. With only four per cent of the respondents being females, it appears that hunting in South Africa is a very male-dominated activity. Other studies have also found that female participation in hunting is generally lower than that of males but female proportions have been increasing over recent years. In the USA for example, the proportional female representation in hunting activities is at about 11% (Metcalf *et al.*, 2015; U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, 2011). Middle-aged men with a high level of education are generally economically strong, therefore supporting the assumption that hunting is an activity mostly conducted by affluent people.

Almost all the respondents have taken part in hunting for meat in the last ten years and the most frequent number of trips per annum is one to two as opposed to only 30% of the respondents who have been hunting for trophies in the last 10 years and they go on trophy less than once every year.

Most of the hunts took place in South Africa and some hunted in countries bordering South Africa. The majority of respondents hunt in a social setting and the most important reasons to go hunting are to be in nature, to get meat and to enjoy the hunting sport. Hunting's role in supporting nature conservation was also an important reason to go hunting. The possibility to shoot trophies, hunting as a form of entertainment and to recreate a sense of the past were not the usual reasons to go on hunting trips. Respondents chose their hunting destinations according to the quality of the meat of animals, its price and the location of the hunting grounds. The least important factors were the possibility to shoot a trophy animal and therefore also the quality of the trophy animal. The following section will provide an overview of the hunter-generating and -receiving areas in South Africa.

4.2 GEOGRAPHY OF HUNTING: HUNTER-GENERATING AND -RECEIVING AREAS IN SOUTH AFRICA

In line with the fourth objective to map the geography of hunters and hunting areas in South Africa, respondents were asked in which district municipality (in South Africa) they live and in which district municipalities they hunt. The information was duly mapped.

Figure 4.15 and 4.16 illustrate the geographic origins of the respondents according to province and district municipality. Unfortunately, less than half of the respondents has indicated their correct district municipality regarding their origin (residence) and destination in which they hunt[7]. Only 657 responses could be used.

Furthermore, the questionnaire required respondents to name which country they hunted in most. The answers stamped South Africa (96%) as by far the most popular and some named Namibia (2%). Other countries that were mentioned were Mozambique, Zimbabwe and Botswana (1%). Almost none of the respondents (less than 1%) went on hunting trips farther than the neighbouring countries.

4.2.1 Hunter-generating regions

The 1353 responses regarding the province of origin are represented in Figure 4.15. Gauteng, with almost half of the responses is the primary source of the hunters. Only the Western Cape featured more than 10% and North West, Limpopo, Mpumalanga and Free State more than 5% each. It is noteworthy that Eastern Cape, Northern Cape and KwaZulu-Natal featured so poorly.

[7] In hindsight this issue could have been prevented by using a drop-down menu or table, where the respondents could choose the appropriate province and the district municipality before he or she could continue answering the next question.

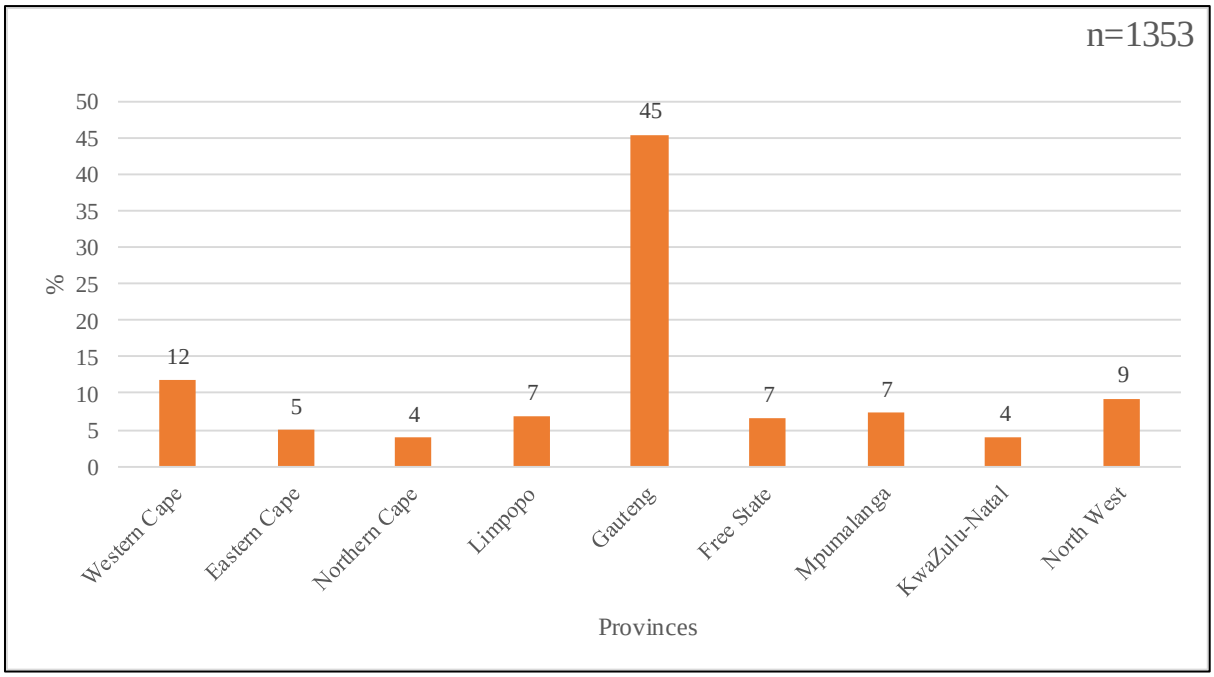


Figure 4.15: Geographical origin of hunters by province

Figure 4.16 illustrates the total number of hunters originating in each district municipality. With 20.8% of the responses, the City of Tshwane in Gauteng is the prime district municipality as generator (n=137). City of Johannesburg (n=40), Ekurhuleni (n=40) and City of Cape Town (n=39) are all distant followers. The least number of respondents originate in district municipalities in KwaZulu-Natal, on the east coast of the country and some of the provinces district municipalities' registered no hunters originating there. Clearly, most of the respondents are based close to South Africa's economic hubs and major cities with the exception of Durban. This supports the assumption that hunting is an activity of the more affluent people for which hunting is part of their leisure activities.

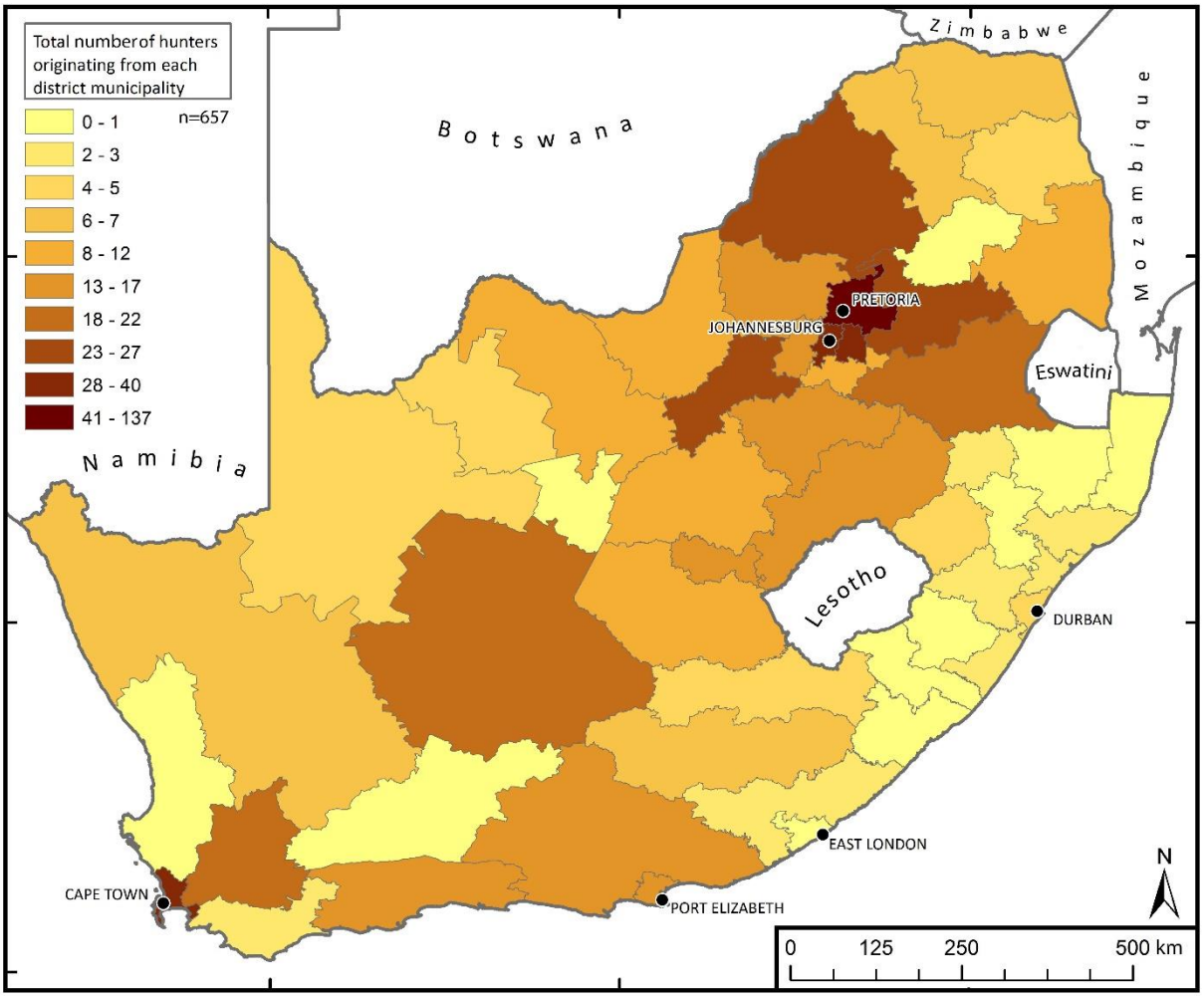


Figure 4.16: Hunter-generating areas in South Africa

The following section will present the hunter-receiving regions in South Africa.

4.2.2 Hunter-receiving regions

Respondents were asked in which district municipality in South Africa they had hunted in the last year (i.e. 2017/2018). Figure 4.17 shows the total amount of hunting incidents in each district municipality of the 657 usable responses. The most popular district municipality is Waterberg in Limpopo with 20.8% (n=137) of the respondents going there to hunt, followed by Pixley ka Seme in Northern Cape with 9.74% (n=74). The Sarah Baartman District Municipality near Port Elizabeth featured well with 5.8% (n=33). The district municipalities with the least amount of hunting incidents were the City of Cape Town and the Namakwa district municipality in the Western Cape, the City of Johannesburg and Ekurhuleni District Municipality in Gauteng, OR Tambo District Municipality and Alfred Nzo District Municipality in the Eastern Cape as well as Harry Gwala district municipality, Ugu District

Municipality, eThekwini Metropolitan Municipality, iLembe District Municipality and Mkhanyakunde District Municipality in KwaZulu-Natal.

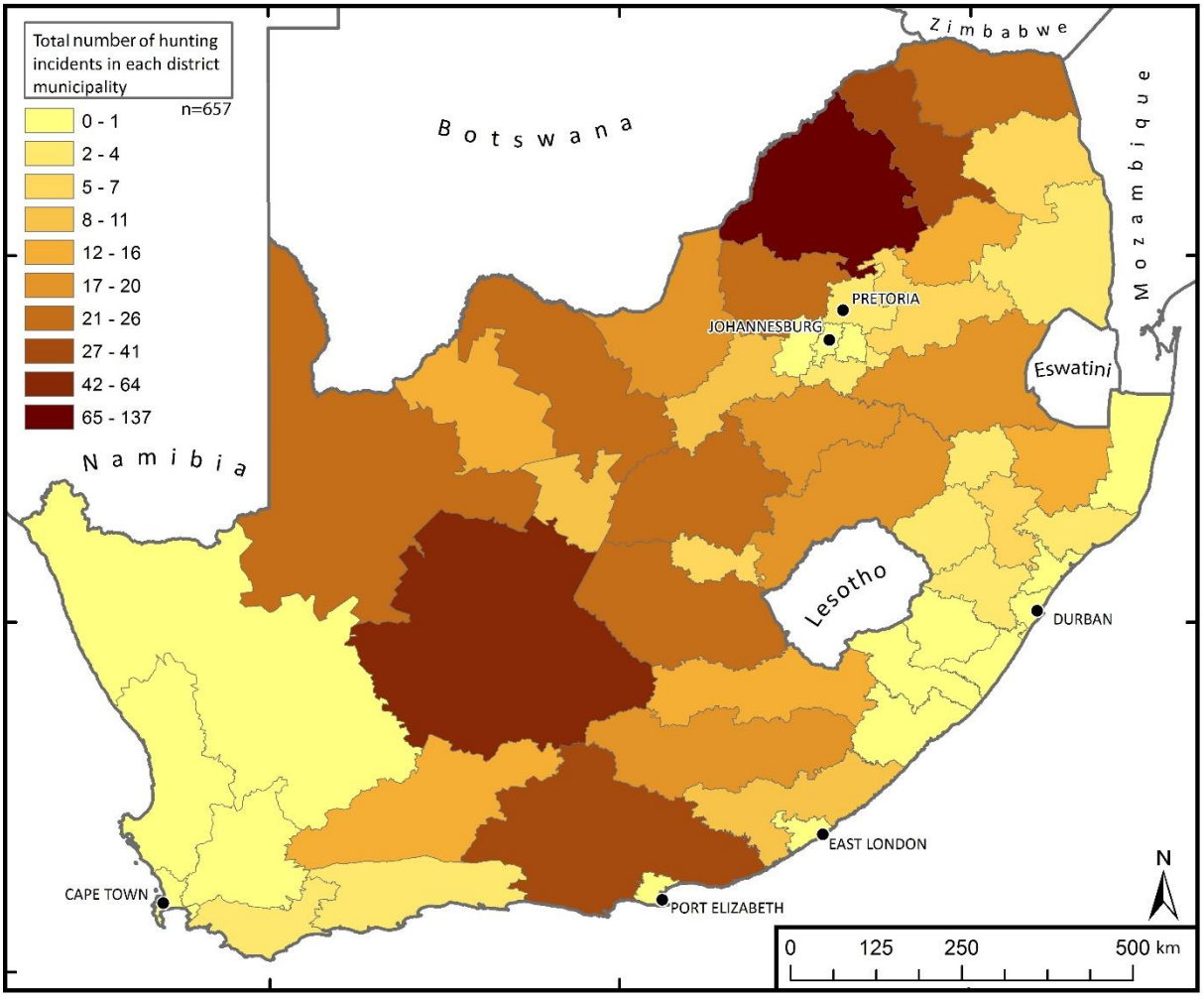


Figure 4.17: Hunter-receiving areas in South Africa

These findings are consistent with those of Van der Merwe, Saayman & Rossouw (2014), who reported that Northern Cape, Free State and Limpopo are the premier hunting destinations in South Africa. The present study found that the Eastern Cape is also a popular hunting destination. These areas are desirable hunting grounds owing to their distinctive vegetational and geographical attributes, one of the latter being their location relatively close to the economic hubs of the country. It is quite likely that the areas that are not very popular as hunting destinations do not have suitable habitats for the wildlife desired by hunters (e.g. forests) or that the available land is used for conventional agriculture rather than wildlife farming.

4.2.3 Conclusion

The examination of the spatial information collected in the survey has shown that most of the hunters originate from Gauteng and Western Cape, both of which are strong economic centres in South Africa. The district municipalities that generated the smallest number of hunters are located in KwaZulu-Natal as well as the Sekhukhune District Municipality in Limpopo and the Frances Baard District Municipality in the Northern Cape. Regarding the hunter-receiving areas the results reveal two district municipalities with significantly high numbers of respondents hunting at these destinations, namely Waterberg in Limpopo and Pixley ka Seme in Northern Cape. Only a few respondents indicated district municipalities in KwaZulu-Natal, Northern Cape and Western Cape as their hunting destinations. It is unfortunate that not all the respondents provided usable responses about district municipality origins or destinations so that the results portray deficient spatial pictures. The following section will assess the environmental, recreational and conservational reasoning of hunters in South Africa.

4.3 ENVIRONMENTAL, RECREATIONAL AND CONSERVATIONAL REASONING OF HUNTERS

This section aims to present results substantiating the fifth objective, namely to assess the environmental, recreational and conservational reasoning behind South African hunting preferences, decisions and activities particularly regarding meat or trophy hunting. The sixth objective to assess the hunters' perception of posting hunting photographs on social media is also dealt with. This section is divided into two main subsections. First is an exploration of the environmental and recreational reasoning about hunting for meat and trophy hunting and the second gives an assessment of the hunters conservational thinking.

4.3.1 Environmental and recreational reasoning

It is essential to gain insight into the environmental knowledge and awareness of the hunters, as these can have far-reaching effects on their environmental concerns and pro-environmental behaviour (Ajzen, 1985; Cottrell, 2014; Grob, 1995; Mobley, Vagias & DeWard, 2010). Intimate knowledge about certain places can increase the hunter's pro-environmental behaviour as they develop a feeling of responsibility for and commitment to a certain place (Larson *et al.*, 2014; Vaske & Kobrin, 2001; Walker & Chapman, 2003). The hunters' knowledge about environmental issues must be understood to appreciate their environmental cognition and

behaviour. To this end this section reports on an assessment of the environmental knowledge and attitude of hunters regarding hunting for meat. The evaluation was done by hunters giving an agreement rating of six statements about attitudes to human-environment relationships. Five of these results are shown in Figure 4.18 and Figure 4.19.

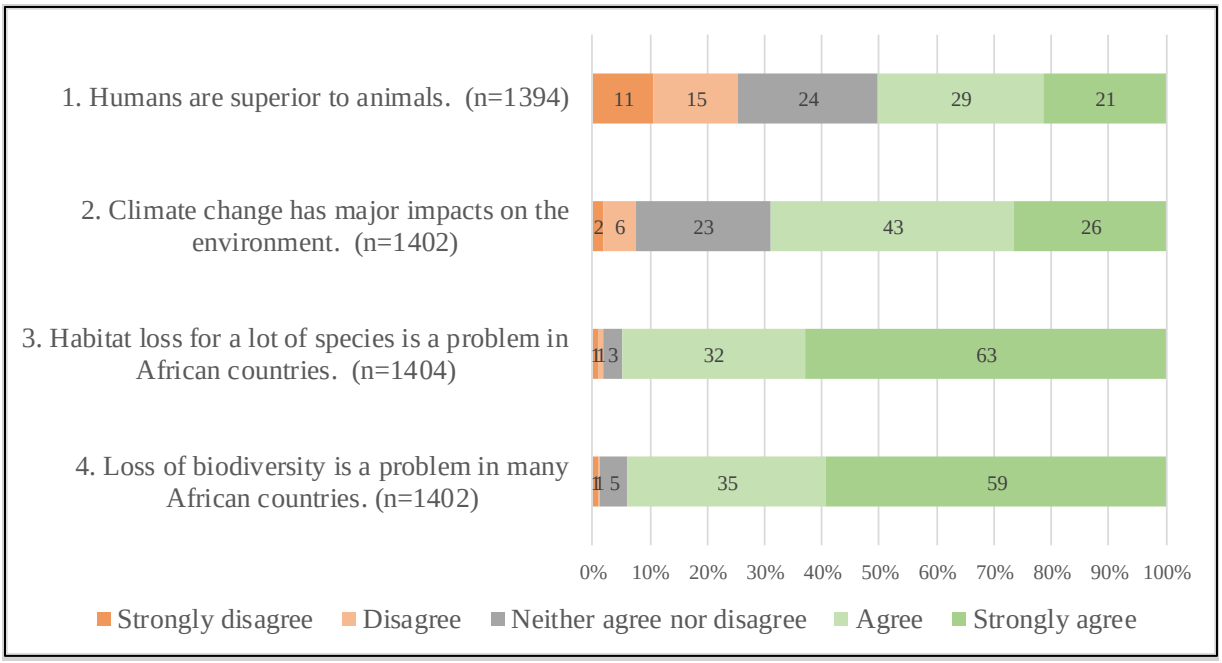


Figure 4.18: Hunters' attitudes to environmental issues

In Figure 4.18 the level of agreement of the respondents with the statement that humans are superior to animals indicated that half of the respondents agreed or strongly agreed with this statement and almost one quarter (24%) suggested ambivalence or mixed feelings about this statement. Another quarter (26%) of the respondents either disagreed or strongly disagreed with the statement. The second statement probed whether they agree that climate change has major impacts on the environment. A total of 69% of the respondents agreed or strongly agreed with the statement and only 8% disagreed. Twenty-three per cent were undecided, suggesting either ambivalence or mixed feelings about this statement. The third statement gauged if the hunters agreed or disagreed that loss of habitat is a problem for many species in African countries. Nearly two out of three strongly agreed and if the 'agree' ratings are added the agreement climbs to 95%. The fourth statement rated whether the hunters agreed or not that loss of biodiversity is a problem in many African countries. Three out of five strongly agreed and combined with the 'agree' score the level of agreement is very high (94%). These results appear to indicate an awareness of the environmental problems African countries face.

As Figure 4.19 shows does a large majority of the respondents (97%) either strongly agree or agree with the statement that they usually consider the impacts that their actions have on the environment. Only 2% stated that they neither agree nor disagree with the statement. None of the respondents stated that they disagree or strongly disagree with the statement. This suggests a very high level of environmental awareness of the respondents.

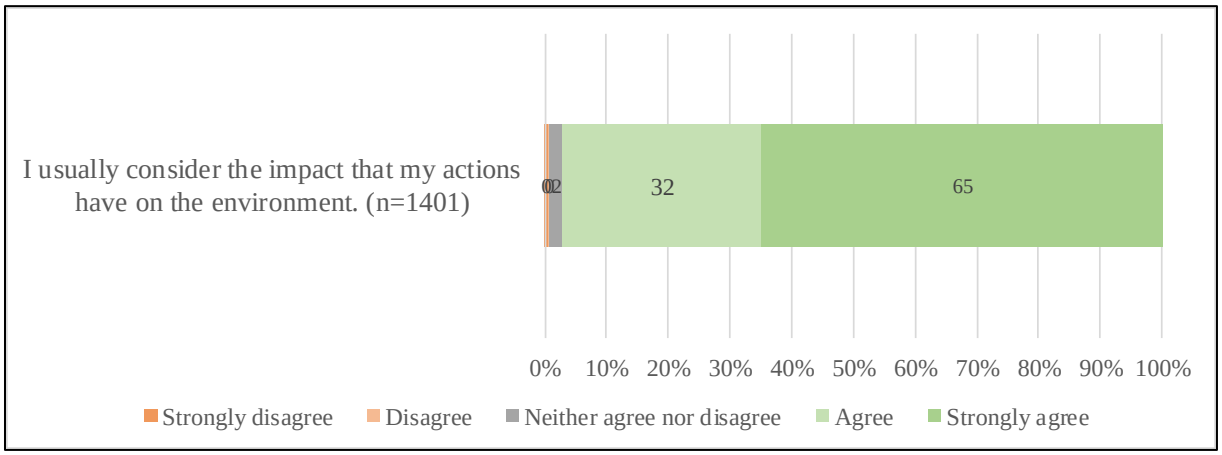


Figure 4.19: Hunters' consideration of their environmental impact

ANOVA revealed raised significances for the comparison of mean scores between the level of education and their agreement or not with statements regarding human-environment relationships (recall Figure 4.18 and Figure 4.19 for statements). Respondents with a higher level of education (tertiary) appear to be more likely to perceive the loss of biodiversity as a problem in many African countries ($p=<0.01$)[8] (Figure 4.20). Respondents with a tertiary education were also more likely to agree with the statement that habitat loss is a problem for many species in African countries ($p=0.05$) (Figure 4.21). These results indicate that respondents with a higher level of education are more aware of the problems the African continent is facing and that they are very considerate of the impact of their actions have on the environment.

[8] The p-value is a number between 0 and 1. A small p-value ($p<0.05$) indicates strong evidence against the null hypothesis and it can be rejected as the alternative hypothesis is true. If the p-value is greater ($p>0.05$), the null hypothesis can't be rejected and is true.

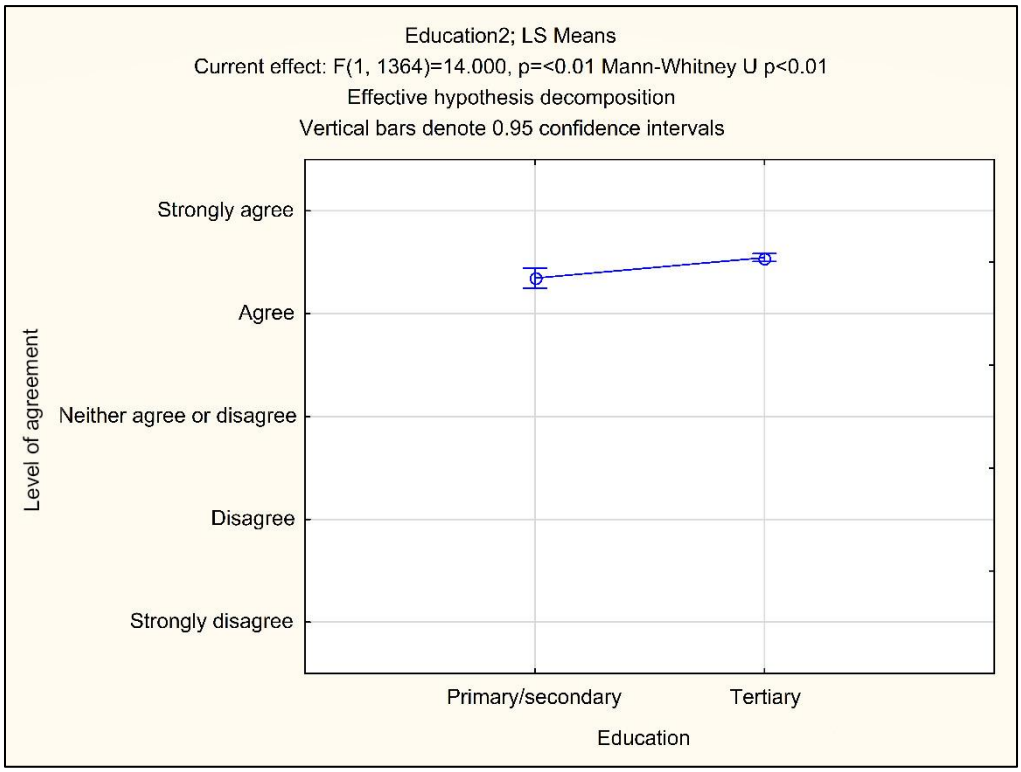


Figure 4.20: Relationship between level of education and loss of biodiversity

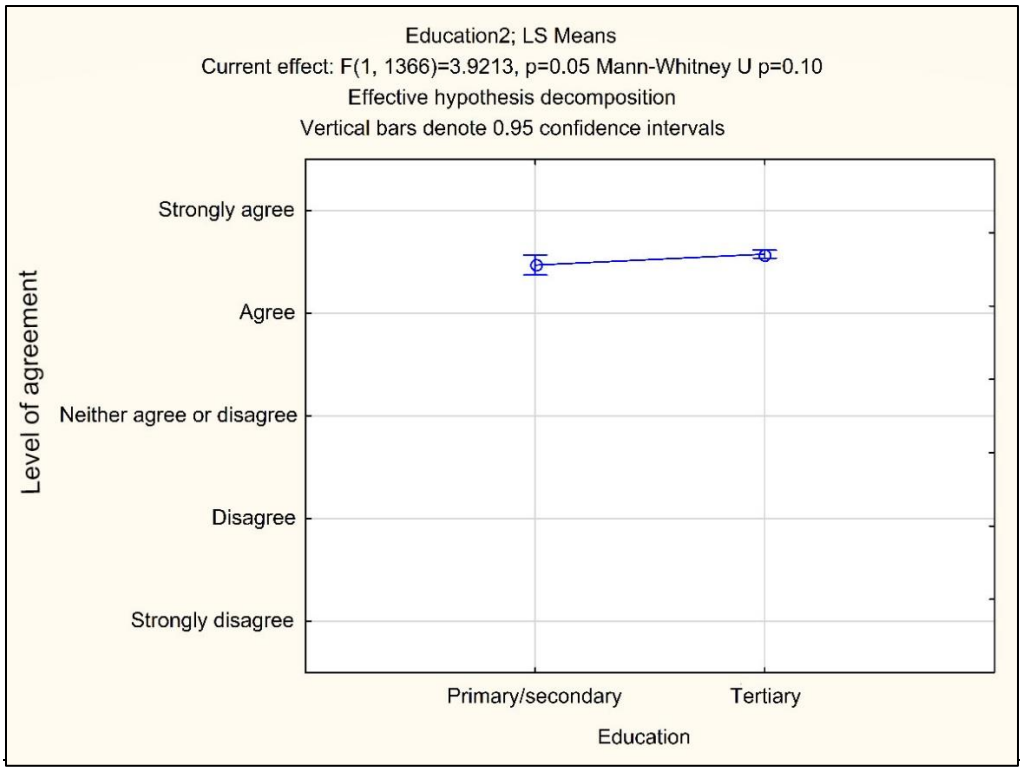


Figure 4.21: Relationship between level of education and loss of habitat

Furthermore, the questionnaire assessed if the respondents usually consider the impact that their actions have on the environment. Here too, it can be deducted from Figure 4.22 that respondents with a tertiary education are more likely to agree with the statement compared to respondents with a primary or secondary level of education (p=<0.01).

Conversely, when respondents were asked if they document their hunting successes and share them on social media, the results are significant, showing that hunters with a lower level of education are more likely to share photographs of hunting trips on social media than respondents with tertiary education (p=0.04) (Figure 4.23).

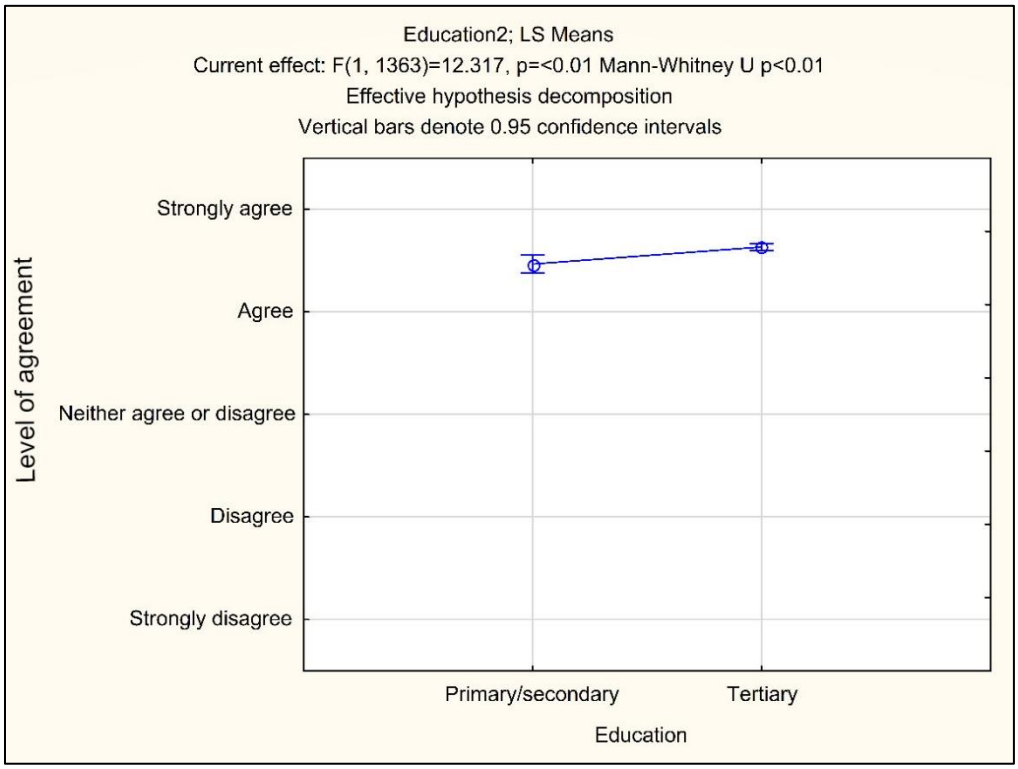


Figure 4.22: Relationship between level of education and whether hunter considers the impact of his/her actions on the environment

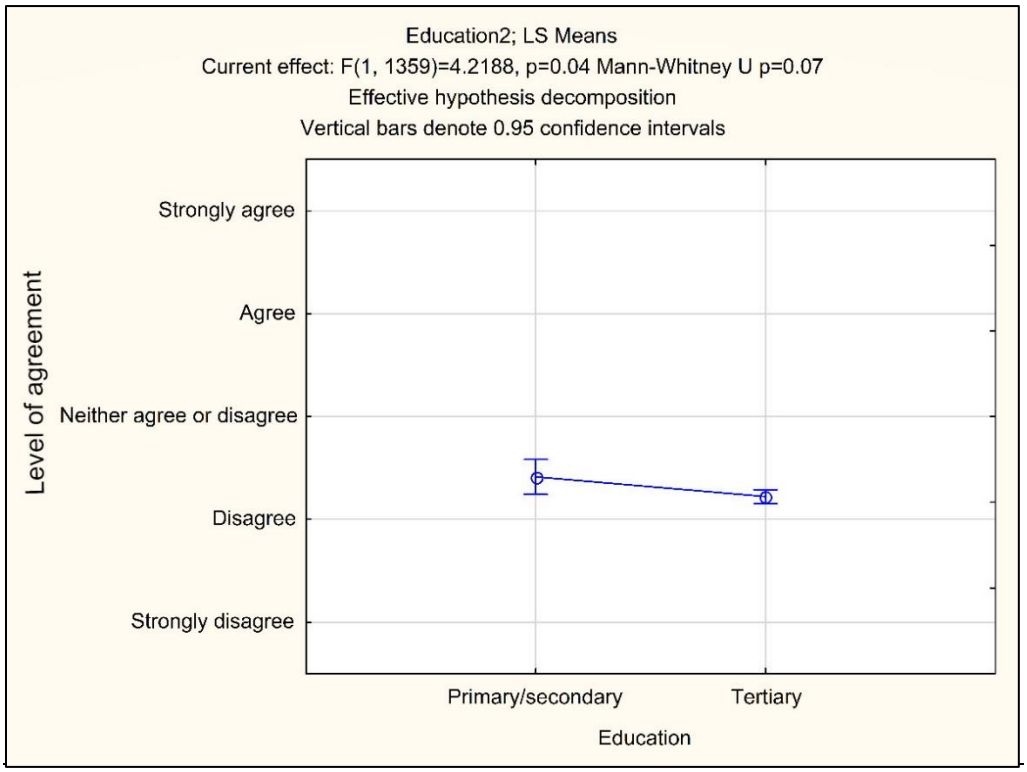


Figure 4.23: Relationship between level of education and documenting and sharing hunting successes on social media

Furthermore, the respondents were asked if hunting for meat impacts the sustainability of an environment positively, negatively or not at all (see Figure 4.24).

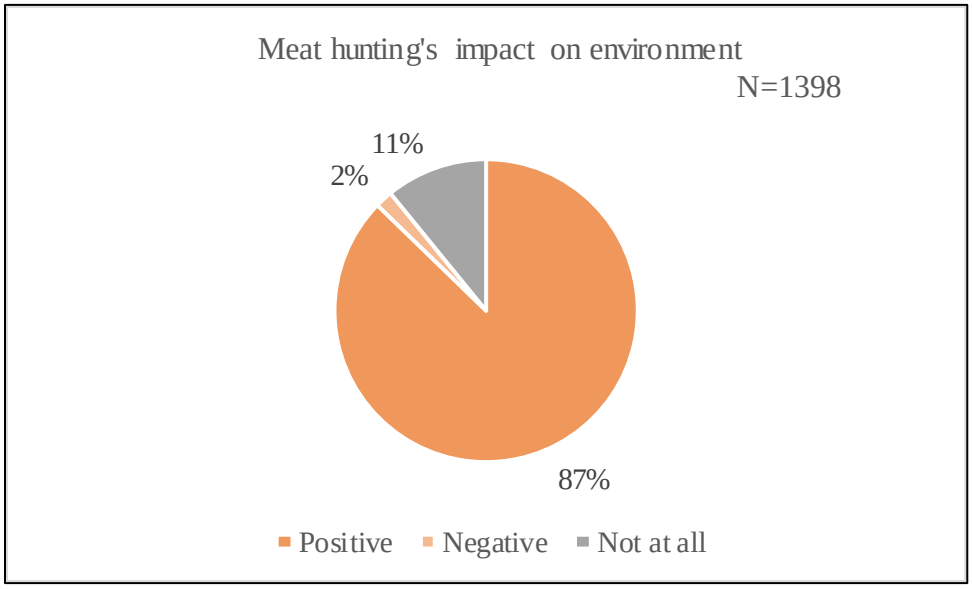


Figure 4.24: Impact on the sustainability of an environment by meat hunting

An overwhelming nine of ten respondents stated that hunting for meat does impact the sustainability of an environment positively. It is noteworthy that 11% stated that hunting for meat does not impact environmental sustainability *at all* and furthermore that only 2% of the hunters stated that hunting for meat impacts negatively on the environment. It is not surprising that the majority of the respondents are of the opinion that hunting for meat does impact the environment positively as most of the respondents also stated that they usually consider the impact their actions have on the environment (recall Figure 4.19). The following subsection will assess the hunters' attitude to hunting for meat.

4.3.1.1 Hunters' attitudes to hunting for meat

Another set of seven statements was used to assess meat hunters' attitudes toward the environmental impacts of hunting for meat. The results of their agreement or disagreement with six of the statements are given in Figure 4.25. A statement on the respondents attitude towards the posting of hunting photographs has been omitted here and is discussed in section 4.4.2.

The first statement asked if they agree or not that it is acceptable to breed animals to achieve colour variations to make them more valuable for the hunting market. Most of the respondents (78%) strongly disagreed or disagreed, while only 8% agreed or even strongly agreed that it is acceptable to hunt purpose-bred animals. This accords with Nel's (2018) findings that South African hunters generally oppose the hunting of intensely and selectively bred wildlife.

A second statement assessed agreement or not on hunting vulnerable or threatened[9] species (such as lion or elephant) if the generated income is used for nature conservation. The results show a trend towards legitimisation of hunting vulnerable or threatened species with nearly two out of three hunters agreeing or even strongly agreeing with the practice. Only one in five (22%) does not approve of it. This result was not expected as the majority of the respondents' are meat hunters, which generally only hunt for consumption. It is therefore surprising that they legitimize hunting of vulnerable or threatened species that are usually unsuitable for consumption. It is also interesting that generating income for nature conservation is perceived as more important than not hunting vulnerable or threatened species.

[9] The researcher notes that the broad literature generally speaks of lions or elephants as vulnerable or threatened in an African context, therefore this terminology was used by the time of the questionnaire development. It is important to rectify that lions and elephants are not vulnerable nor threatened in South Africa. Nonetheless are both species iconic and have a high emotional value for many people.

Two further statements asked if hunting is the only ecologically and the only economically viable option to protect natural landscapes. Both statements elicited much agreement with these statements. Nearly half (47%) agreed or strongly agreed that hunting is the only ecologically viable option to protect natural landscapes. It is notable that 32% were undecided on whether they agreed or disagreed and 21% disagreed or even strongly disagreed. Similarly, more than half (55%) of the hunters agreed or strongly agreed that hunting is the only economically viable option to protect natural landscapes. Twenty-seven per cent were undecided on agreement or disagreement and 19% even disagreed or strongly disagreed with the statement. The fifth statement assessed the hunters' acceptance or not of hunting so-called problem animals (animals that destroy farmers' crops). Three out of four accepted that the hunting of those animals is necessary. Nineteen per cent were uncertain and only 8% disagreed or disagreed strongly with the statement. When asked if they believe whether it is their right to hunt animals for food, most (81%) agreed or strongly agreed.

The results reveal that most respondents perceive hunting as the only ecologically and economically valuable option to protect natural landscapes. It is furthermore perceived as necessary by most of the respondents (74%) to hunt animals when they are destroying the crops of farmers. It is interesting that 10% of the respondents disagree or strongly disagree with the statement that it is our right to hunt animals for food, but they still hunt. It is noteworthy that the majority of respondents stated that they agree or strongly agree that it is legitimate to hunt species that are vulnerable or threatened if the generated income contributes to nature conservation, but at the same time does the majority of respondents not agree with breeding animals to achieve colour variations to make them more valuable for the hunting market.

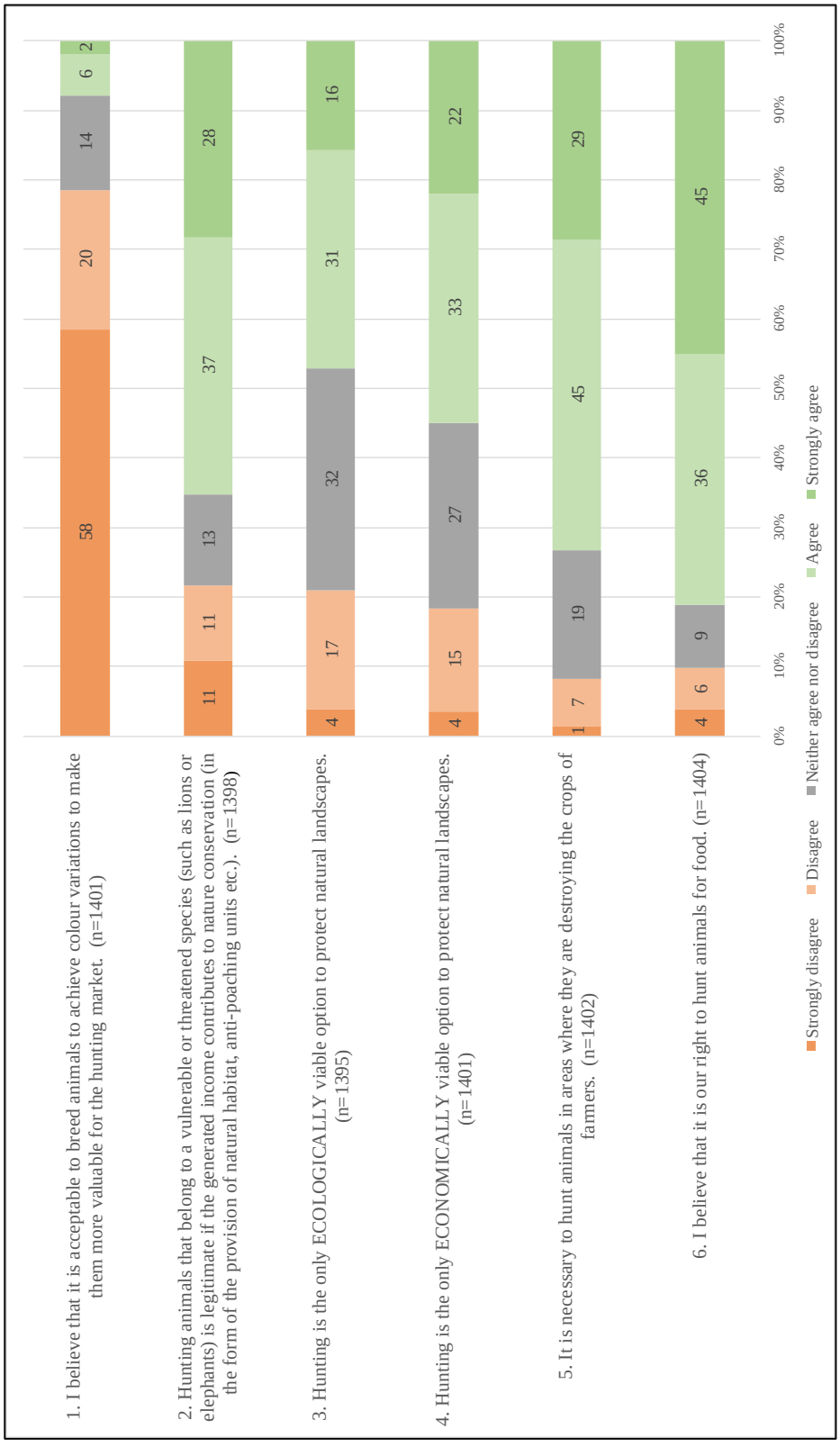


Figure 4.25: Hunters' agreement or disagreement with statements on the human-environment relationships of hunting

In the following subsection the hunters attitudes to trophy hunting will be assessed.

4.3.1.2 Hunters' attitudes to trophy hunting

Although only 30% of the respondents had been trophy hunting in South Africa in the foregoing 10 years, almost 80% of the hunters do approve of trophy hunting. The survey further queried each hunter's opinion on whether trophy hunting impacts the sustainability of an environment. According to Figure 4.26 nearly two out of three respondents stated that trophy hunting impacts the sustainability of an environment positively opposed to only 12.3% that were convinced it negatively impacts an environment. But one in four regard hunting for trophies as not impacting on the sustainability of an environment in any way. Even though only a relatively small fraction of the hunters trophy hunted on a regular basis, a clear majority of them approves of it and believes that it either positively affects environments or has no impact at all. This investigation shows an acceptance of trophy hunting in general.

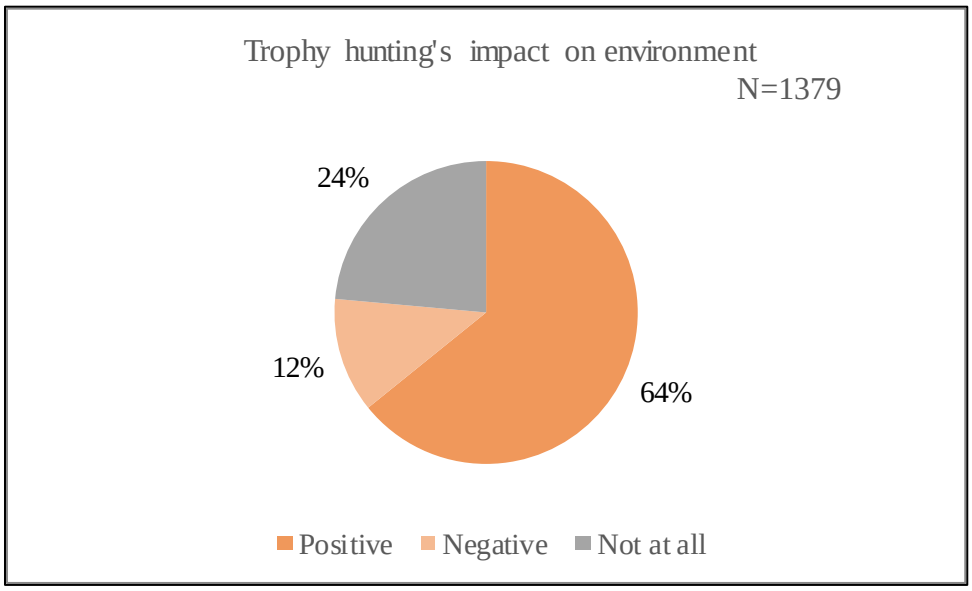


Figure 4.26: Impact on sustainability of an environment of trophy hunting

This section has provided an overview of the environmental and recreational reasoning of hunters and focussed on hunting for meat and trophy hunting. Section 4.3.2 will assess the conservational reasoning of the respondents.

4.3.3 Conservational reasoning

The section reports on the conservational thinking of the hunters regarding hunting for biltong and trophy hunting. It delves into the respondents' participation in nature conservation and their conservational reasoning. Furthermore, it assesses the hunters' arguments for and against participation in trophy hunting.

4.3.2.1 Hunters' participation in nature conservation

It was found that 86% of the respondents were supporting nature conservation organizations by donating money or through other contributions. Theories explaining sense of place hold that people are more likely to support nature conservation initiatives if they feel a connection with the environment (Cuba & Hummon, 1993; Vaske & Kobrin, 2001). It is therefore not surprising that almost nine out of ten respondents support some form of conservation initiative.

Figure 4.27 illustrates how support of conservation varies according to hunters' level of education. The representations indicate that support (donations) for nature conservation initiatives is more likely to be by respondents with a higher level of education. According to the responses are 1179 of the respondents supporting nature conservation organisations through donations. Out of the respondents with a primary or secondary education, 81% support nature conservation. Out of the respondents with tertiary education, 87% support nature conservation organisations through donations. Nature conservation organizations were not financially supported by one out of four respondents with a primary/secondary education and by 13% of the respondents with a tertiary education.

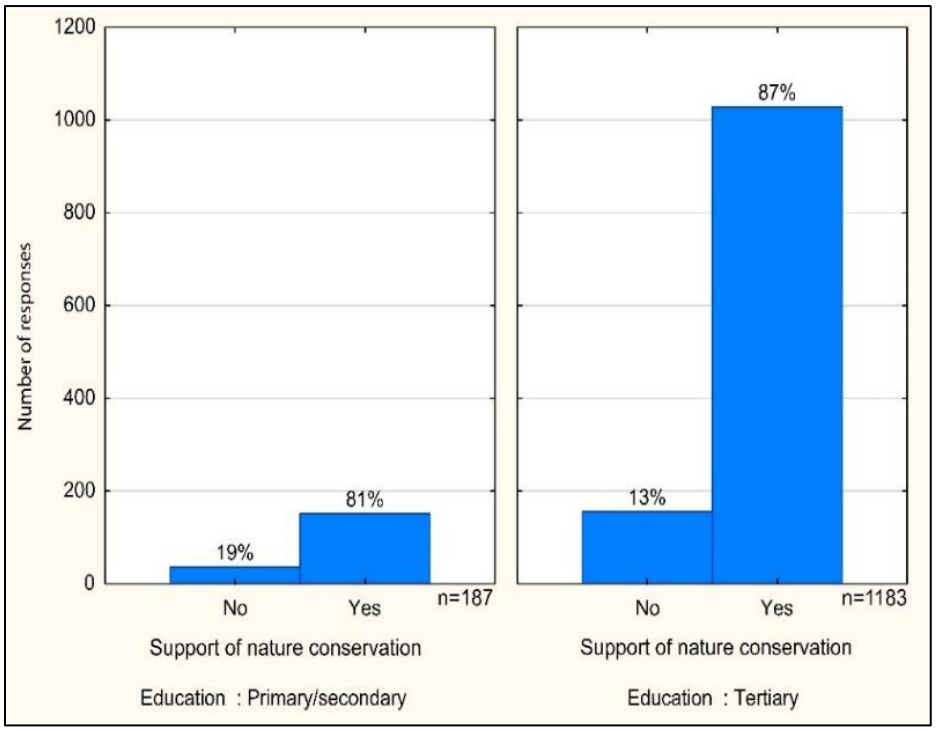


Figure 4.27: Relationship between hunters' level of education and their support for nature conservation organizations

The following section looks at the hunters' conservational reason on hunting for meat.

4.3.2.2 Hunters' conservational reasoning on hunting for meat

Respondents were given seven statements to evaluate the hunters' attitudes to the connection between nature conservation and hunting for meat. Figure 4.28 displays the results.

Respondents were given the statement that hunting for meat has a bad reputation with the broad public. The result on the first statement provides a relatively balanced picture of agreement (40%), disagreement (32%) and being in two minds (28%). The second statement drew out irrefutable acceptance (96%) of hunting for meat being a tool to control animal populations. Similarly, the third statement that hunting for meat raises local communities' appreciation of wildlife because it functions as an additional income-generating source elicited immense argument (79%). Furthermore, some three out of five respondents (58%) agreed with the fourth statement which stated that hunting for meat generates sufficient amounts of money to finance anti-poaching and/or wildlife conservation programmes. About nine out of ten (87%) of the hunters agreed with the fifth statement which stated that there would be significantly less habitat for wildlife without hunting for meat and the same level of agreement (86%) was obtained for hunting being a lucrative economic activity that contributes to the management of sustainable

ecosystems. Almost all (97%) of the hunters agreed with the sixth statement which stated that farming for hunting purposes provides an alternative economic activity for farmers to diversify the farm-level economy. As the majority of the respondents are meat hunters, these results were to be expected.

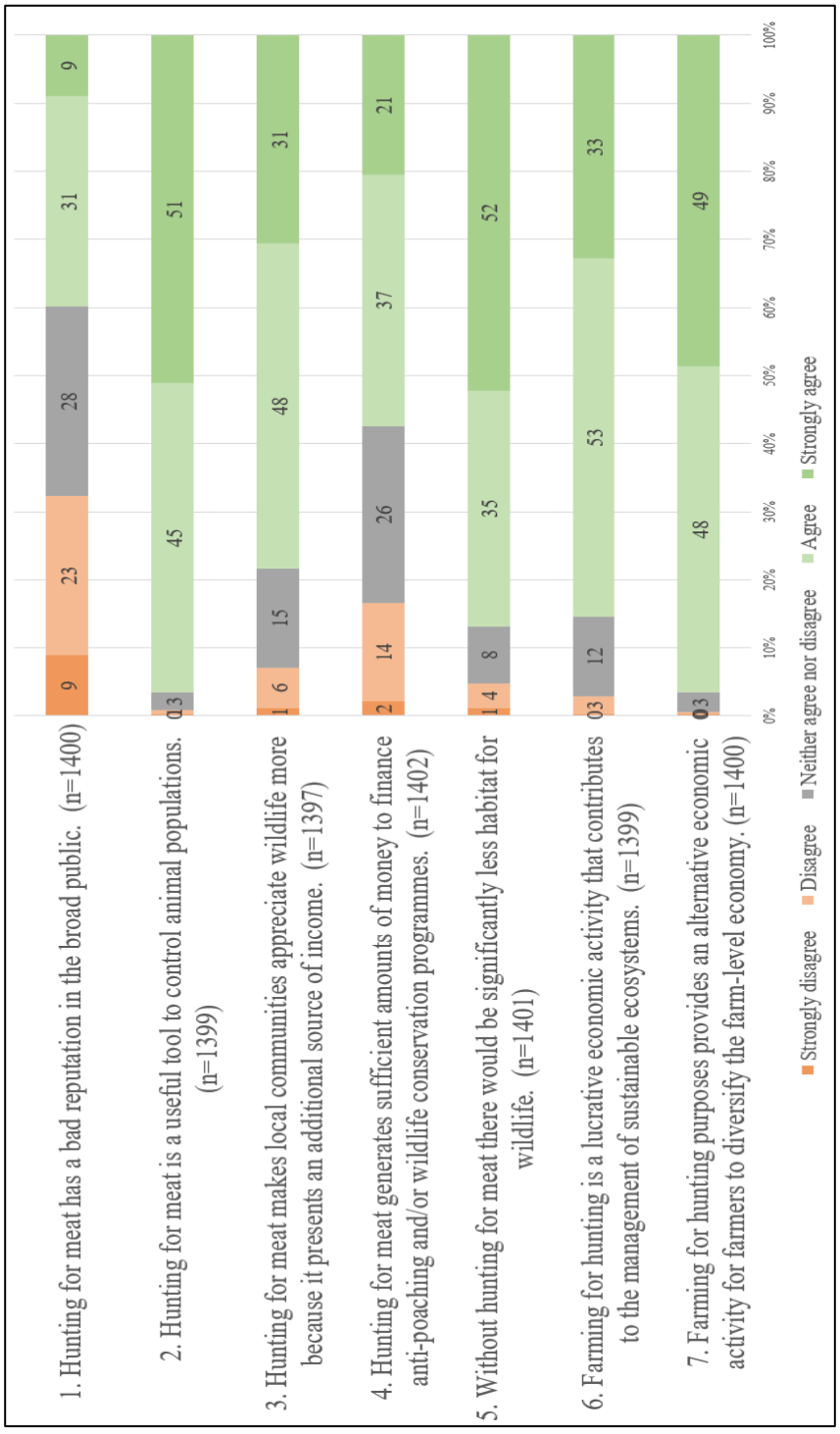


Figure 4.28: Agreement with attitudes to hunting for meat

In the next section the focus will shift to the respondents conservational reasoning on trophy hunting.

4.3.2.3 Respondents' conservational reasoning on trophy hunting

The hunters' awareness of the relationship between nature conservation and trophy hunting was also evaluated by the hunters' agreement or disagreement with ten statements about trophy hunting. Figure 4.29 presents these results graphically.

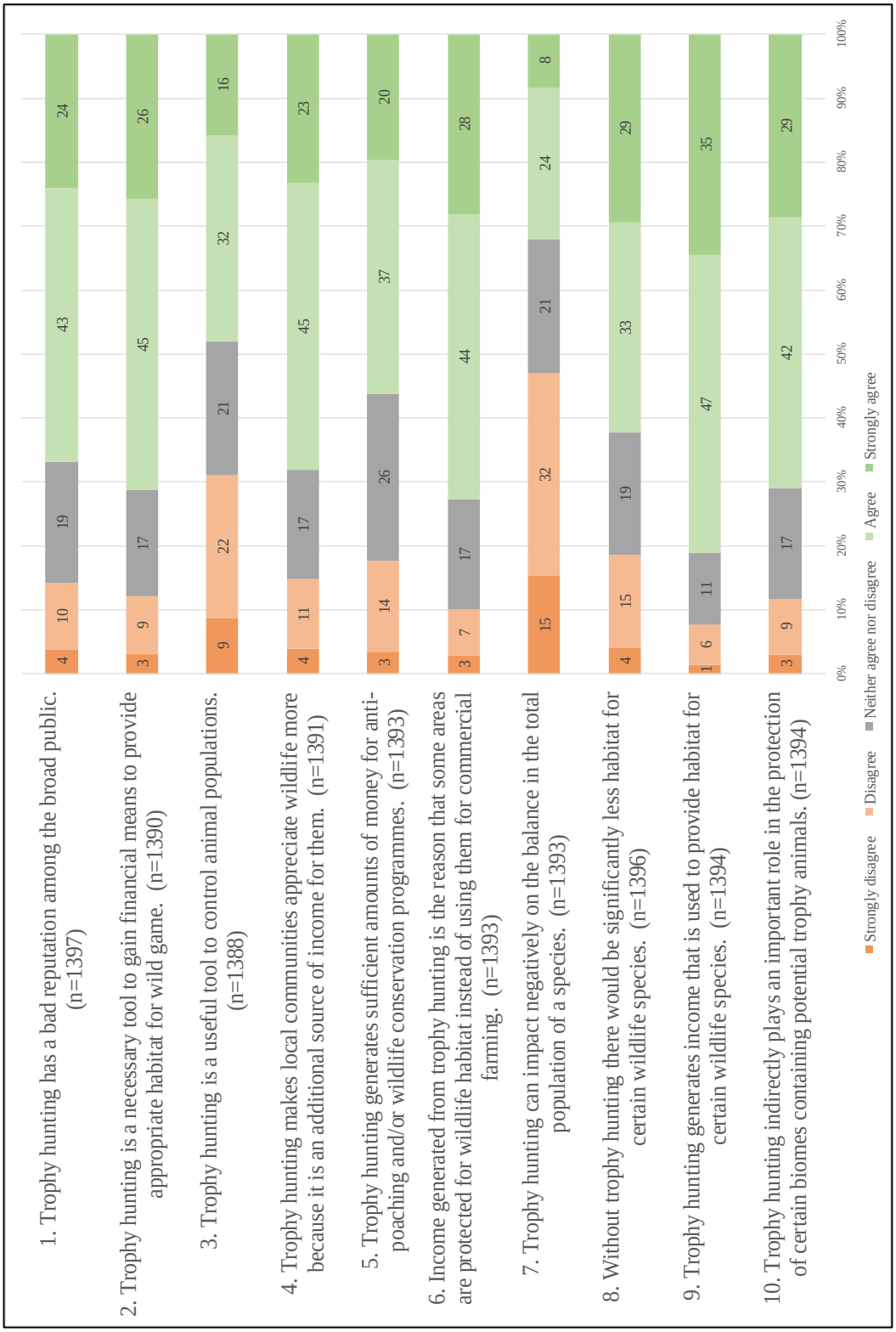


Figure 4.29: Agreement with attitudes toward trophy hunting

When asked if trophy hunting has a bad reputation among the broad public, two out of three hunters agreed or agreed strongly with this statement (Statement 1). Even more (71%) agreed or strongly agreed that trophy hunting is a necessary tool to gain financial means to provide appropriate habitat for wild game (Statement 2). Trophy hunting as a useful tool to control animal populations prompted a more equally distributed agreement/non-agreement response, but with a balance (48%) leaning more toward agreement (Statement 3).

The fourth statement that trophy hunting makes local communities appreciate wildlife more because it is an additional source of income for them also gave rise to a two-thirds majority of agreement. The fifth statement – stating that trophy hunting generates enough money for anti-poaching and/or wildlife conservation programmes – induced a 57 per cent agreement score and a quite noteworthy 26 per cent of responses of neither agreement nor disagreement with it. Statement six, which stated that income generated from trophy hunting is the reason that some areas are protected for wildlife habitat instead of being used for commercial farming generated substantial agreement of 72 per cent.

Whether trophy hunting can impact negatively on the balance in the total population of a species (Statement 7) engendered the greatest degree of disagreement (47%) of all the statements. Sixty-two per cent of the hunters believed that without trophy hunting there would be significantly less habitat for certain wildlife species (Statement 8). The statement claiming that trophy hunting generates income used to provide habitat for certain wildlife species (Statement 9) extracted the highest (82%) level of agreement of all the statements. The contention that trophy hunting indirectly plays an important role in the protection of certain biomes containing potential trophy animals (Statement 10) obtained a majority (71%) of respondents who agreed.

4.3.2.4 Hunters' attitudes to trophy hunting

An analysis of the qualitative information gained though the open-ended questions gleaned from the questionnaire survey revealed that even among the hunting community their attitudes to trophy hunting vary significantly. These range from hunters who approve of the actions of trophy hunters to those who strongly disapprove of it. The advocates base their arguments on the hunters' adherence to ethical standards, the positive impact trophy hunting has on nature conservation, the necessity to hunt for maintaining a healthy gene pool, trophy huntings' economic viability for farmers and its role as an important attractor of international tourists. Conversely, the opponents stress that trophy hunting is unethical, that it can have negative effects on the gene pool and behaviour of animals, that it is too expensive and that it adds to the bad reputation of forms of hunting.

Before taking a closer look at these arguments, it must be noted that although the survey established that only a small number of respondents hunt for trophies on a regular basis, the

number of hunters who do approve of it is substantially larger. Many of the respondents stated that whereas they approve of trophy hunting, they do not conduct it themselves as it is too expensive or because they are afraid of negative reactions from the public. The defence of trophy hunting is given first.

4.3.2.5 Arguments by advocates of trophy hunting

The questionnaire survey uncovered five major themes in the reasoning of the advocates why trophy hunting is beneficial. These are ethical standards, the contribution to nature conservation, the positive impact on gene pools, the role as source of valuta and its economic significance.

A primary factor that emerged from the survey regarding approval or disapproval of trophy hunting is the adherence to ethical standards. This is consistent with the findings to Damm (2005) and Huddleston (1999). Many of the surveyed hunters approve of trophy hunting so long as it is conducted in a respectful manner towards the wildlife. Unfortunately, even though most of the respondents did not explicitly state what ethical hunting behaviour entails for them. However, two frequently mentioned characteristics of ethical behaviour were that no endangered species should be hunted and that the meat has to be used (either consumed by the hunter or donated to local communities) in order to not waste food.

The respondents base their judgements of how ethical a hunt is deemed to be on the species hunted. The respondents were generally more approving of the hunting of antelope than iconic African species such as lion, leopard and elephant. Apart from an intense emotional relationship with these iconic species, another reason is that antelope meat can be consumed whereas the meat of feline species is generally not eaten. They also maintain that a steady demand for specific species will ensure that these animals will be bred and better protected by farmers through increased anti-poaching measurements. This accords with Nel's (2018) conclusions. Many of the respondents highlighted the essential role trophy hunting plays in nature conservation in South Africa. This matches up with much sentiment reported in the academic literature on trophy hunting, but the proviso is that it is conducted in a sustainable manner, as also stressed by Creel *et al.* (2016). The survey respondents averred that many species would suffer from a loss of natural habitat or any decrease in funds for conservation should trophy hunting not take place. Another justification for trophy hunting is that the income generated is beneficial to local communities and it helps to fund nature conservation initiatives and anti-poaching campaigns. The proponents argue that trophy hunting improves the conditions for

local communities, mainly through the creation of jobs, even contending that trophy hunting is creating more jobs in form of professional hunters, guides, trackers and taxidermists than hunting for meat or photographic tourism.

The supporters stated that for wildlife to be protected, it must have an economic value attached to it. They quote the maxim that “If it pays, it stays”. By giving wildlife an economic value, local communities are more inclined to recognize the wildlife’s potential as a source of income, so increasing their appreciation of the animals and consequently their will to protect them and their habitat. The respondents also declared that the income that is generated through trophy hunting is an efficient conservation management tool, as large amounts of it are used to finance anti-poaching programmes and to fund scientific research. This has also been observed by Mbaiwa (2018a). The approving respondents maintain that trophy hunting ensures the conservation of natural habitats and that many species would become extinct without these natural surroundings. A further line of reasoning is the role trophy hunting plays as a management tool for controlling animal populations. Since most of the land used for hunting is fenced off, populations are not able to roam freely with the result that population numbers are increasing due to the decline of natural predators. It is essential that animal numbers are controlled to ensure the survival of natural habitats. The supporters further insist that trophy hunting provides a plausible alternative to conventional culling, as it helps with the reduction of individuals of specific species while generating income for the farmers at the same time. Trophy hunting can also aid the management of animals that destroy agricultural crops, the so-called problem animals.

Furthermore, respondents laid stress on the impact trophy hunting has on the genetic pool of a species or within a specific population. Some proclaimed that the gene pool of a population must be kept artificially healthy, something which can only be achieved through removing animals that have passed their prime reproductive age. Their argument holds that it is necessary that the old and dominant individuals are removed so that younger ones with ‘new’ genes can take on their place, so allowing the younger individuals to take on the dominant roles. This reasoning contradicts the hunters’ understanding of ethical hunting. According to fair-chase principles, animals that have passed their reproductive age should not be hunted. Therefore, the claim that hunting has a fruitful impact on the gene pool is questionable as the hunted animals are no longer reproducing. Loveridge, Reynolds & Milner-Gulland (2006) stated that trophy hunting does influence the gene pool of hunted species, but it does not have serious consequences on the biodiversity.

The gainful effects on the game-breeding and game-farming industry are further rationalizations of the advocates of trophy hunting. They contend that the breeding of trophy animals is more economically viable than breeding animals for meat hunts because trophy hunters are willing to pay large amounts of money to secure the prime trophy animals they want. This contended feasibility of trophy hunting compared to conventional livestock farming has also been highlighted by Nel (2018). The trophy-hunting industry adds increased economic value to trophy animals in comparison to game used for meat hunting. Clearly, the proponents maintain that trophy hunting promises to be an efficient and more environmentally sustainable alternative to conventional agricultural farming. This accords with findings made by Saayman, Van der Merwe & Saayman (2018) and Naidoo *et al.*, (2016). The advocates of trophy hunting ultimately argue that the economic contribution to the South African economic by international hunting tourists is indispensable, which has also been stressed by Baker (1997a). The well-established trophy-hunting industry of South Africa is an attractive and popular destination for hunters from overseas who spend large sums on hunting so bringing foreign exchange into the country. But the championing of trophy hunting is only one side of the coin. The obverse is looked at next.

4.3.2.6 Arguments by opponents of trophy hunting

The qualitative information collected through the questionnaire survey revealed that some respondents hold very firm opinions against trophy hunting. Most of their arguments can be grouped in four categories, namely the impact of evolutionary consequences due to selective breeding and hunting; the immorality of trophy hunting; the high costs of trophy hunting; and the bad reputation that trophy hunting gives to other forms of hunting.

Whereas advocates of trophy hunting believe that trophy hunting is necessary to keep the gene pools of species fresh and healthy, the opponents emphasize the severe detrimental effects trophy hunting can have on gene pools and more importantly that we now do not know enough to be able to predict what the long-term effects of trophy hunting will be. This accords with the research by Gunn (2007) and Heffelfinger, Geist & Wishart (2013). The opponents point out that negative effects are caused either through specific breeding for trophy hunting purposes or selective offtake. Since trophy animals are usually the individuals in a group with the biggest body size or horns and these hunted animals are generally the oldest and therefore the most dominant ones. The objectors fear that by removing these animals from the populations the superior genes are removed with subsequent long-term effects on the species as the oldest

animals usually fulfil very important roles within the populations. Furthermore, in order have valuable trophy animals, game farmers often intentionally breed animals to obtain specific attributes, such as colour variations, which sell for more money compared to the normal trophy-hunting animals. These new and artificially-created attributes might not be beneficial to the animals in their natural habitat, thereby changing their natural behaviour patterns or making them physically less able to survive in the wild.

A common response of the critics was that trophy hunting is perceived to be unethical and it is disrespectful to the animal, as also stated by Baldus & Cauldwell (2004). Most of the hunters who took part in the study are meat hunters and according to them they only hunt for meat they can consume. These hunters who hunt exclusively for meat assert that the rational of trophy hunting is not to obtain meat for consumption but to 'brag about the hunt' and to 'boost the hunters ego'. It must also be noted that even among the opponents of trophy hunting there is a differentiation between species. Whereas the hunting of antelopes for trophies is generally deemed to be more acceptable, most of the detractors oppose the hunting of endangered species or the Big Five.

Furthermore, the bad reputation trophy hunting has among within the broad public and the dubious image it might create for other hunting forms are concerns the opponents highlight. Since trophy hunting has a public image of being a cruel sport, which is mainly conducted for the thrill of the hunt instead of a means to obtain food, the opponents are fearful that it might give a bad reputation to other forms of hunting. This problem has also been stressed heavily by Nel (2018).

4.3.4 Conclusion

Thus far this chapter has assessed the environmental and conservational reasoning by hunters about both hunting for meat and trophy hunting. It was revealed that the respondents' awareness of environmental problems in Africa is relatively high. The respondents' attitude to hunting for meat is that they perceived it as being beneficial for the environment. The majority of respondents stated that it is unacceptable to purposefully breed animals to make them more valuable for the trophy hunting market. Almost 80% of the respondents do approve of trophy hunting but significantly fewer agree that trophy hunting influences the environment positively. It was confirmed that the higher the level of education, the more likely a hunter is to support nature conservation initiatives. Both hunting for meat and trophy hunting are generally accepted to be suitable tools for nature conservation. The analysis of the qualitative survey information

explored the reasons why the hunters either approve or disapprove of trophy hunting. Their explanations revolved around themes such as ethical concerns, the type of species hunted, financial considerations, its role as a conservation tool and the predictability of its long-term effects. The following section will shine a light on the ethical behaviour of the respondents as well as their attitude toward the use of social media.

4.4 ETHICAL HUNTING BEHAVIOUR AND THE USE OF SOCIAL MEDIA

Over the past decade increasing numbers of people have joined various social media platforms on which photographs are shared as popular practice (Murphy, 2014; McManus *et al.*, 2016). Murphy, Hill & Dean (2013: s.p.) defined social media as "…the collection of websites and web-based systems that allow for mass interaction, conversation, and sharing among members of a network." Wildlife hunters' worldwide post images from their hunting trips on platforms such as Facebook, Instagram or personal blogs (Darimont *et al.*, 2017). This common practice often provokes extremely negative reactions which lead to heated debates on the ethics of trophy hunting (Mkono, 2019b). Among the participants in the questionnaire survey are those who perceive the sharing of hunting photographs online as a form of storytelling but as unnecessary bragging by others. This is not only a controversial topic between hunters and the opponents of hunting but also a contentious issue within the hunting community itself.

Mkono (2019b) has recently assessed how hunters rationalize their pastime in the social media. She concluded that hunters often use altruization, euphemization and scientifizing or anti-emotionalizing to validate their hunting behaviour. Although her study concentrated on the reasoning of hunters on social media platforms, the analysis of the qualitative information in this study revealed the same observations. Where the respondents who approve of trophy hunting base their case on trophy hunting's positive impact on nature conservation, they hunt to "save them from a difficult death" which is altruization. Euphemization, the use of "more palatable terms such as hunting [or] taking" (Mkono, 2019b: 222), was used in the present study by trophy hunters but not as regularly as described by her research. Scientifizing and anti-emotionalizing, which are used by hunters to portray their actions as based on science and logic, have also been observed in the responses in this study. For example, while frequently fixing on the need to control the populations' gene pools, the proponents often described anti-hunters as 'greenies', 'bunny-hunters or tree-huggers" who are overemotional.

This section aims to provide insight into how the local South African hunters'[10] think about ethical hunting behaviour and what their sentiments are on the posting of hunting photos on social media platforms. The responses to statements regarding ethical hunting guidelines as well as the posting of hunting photographs on social media were assessed first and then an analysis and synthesis was made on how the respondents make use of posting hunting photographs on social media platforms and what they think about other hunters that post images on social media platforms.

4.4.1 Ethical hunting behaviour of hunters

The hunters who participated in the survey were given four statements about ethical hunting behaviour about which they were required to indicate their degree of agreement or disagreement. The results of the assessments are given in Figure 4.30.

Most (91%) of the hunters stated that they do follow the principles of fair chase when they go on a hunt (Statement 1). This suggests a high awareness of the respondents towards the need for ethical hunting practices. More than three out of four respondents stated that they do not exclusively shoot animals from a specialized hunting vehicle (Statement 2). Only 5 per cent stated that they agree or strongly agree with the statement. Sixty-three per cent of the respondents were, in order to shoot a rare trophy, not willing to hunt wildlife species that had been bred selectively (Statement 3). This accords with similar findings by Nel (2018), which also stated that South African hunters are moving away from hunting selectively bred species. More than half (53%) of the respondents were willing to hunt wildlife species that have been introduced outside their natural habitat (Statement 4). This is also known as put-and-take hunting. This result is surprisingly high, as the practice is usually not considered to be a fair-chase hunting technique (Lindsey, Romañach & Davies-Mostert, 2008). The responses about shooting animals from specialized hunting vehicles, hunting animals bred selectively as well as animals introduced outside their natural habitat had high rates for neither agreeing nor disagreeing (17%, 19% and 20% respectively). These indicate quite high levels of ambivalence or mixed feelings. It is assumed that this is due to a case-by-case decision making process it was difficult for the respondents to decide on their level of agreement.

[10] Remember that all these respondents are registered to local South African Hunting associations.

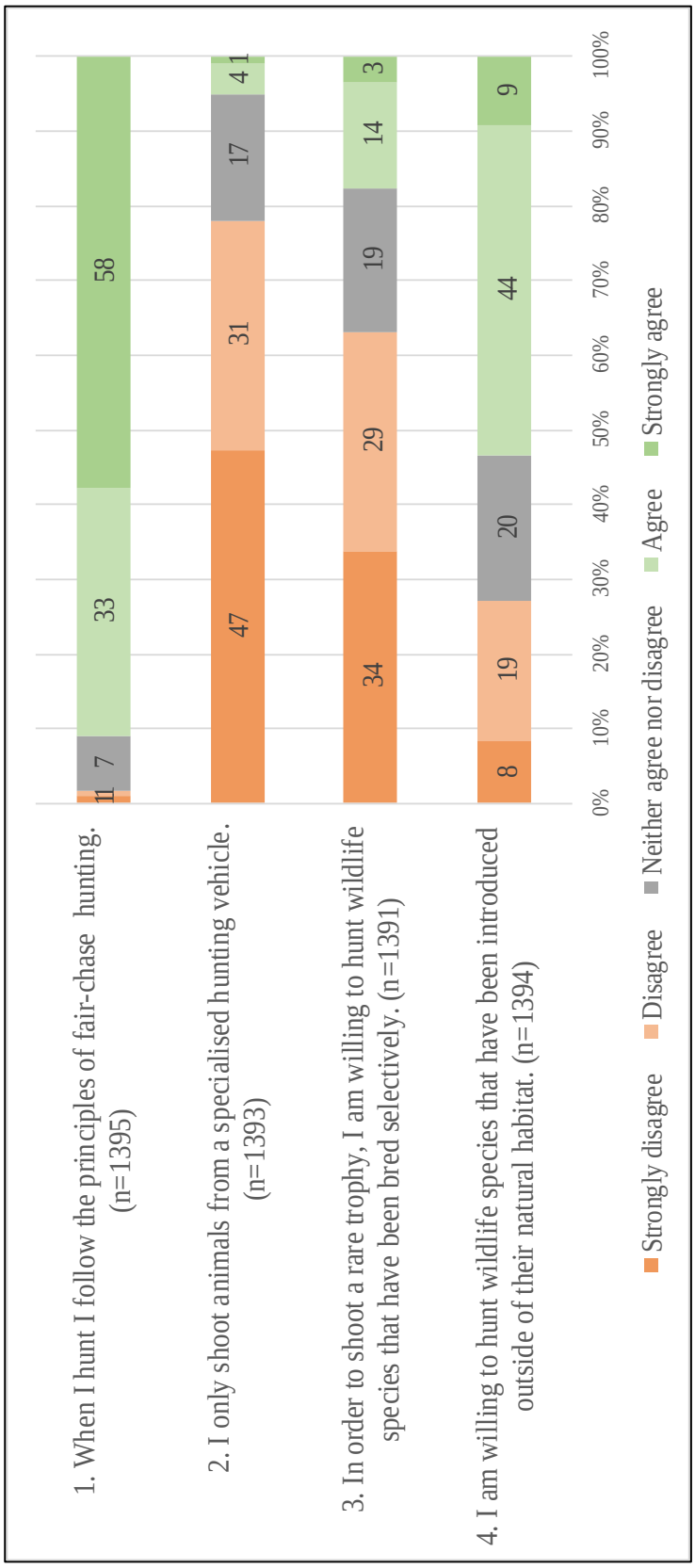


Figure 4.30: Ethical hunting behaviour of hunters

In the following section the respondents' attitudes to sharing photographs on social media will be assessed.

4.4.2 Respondents' attitudes to sharing photographs on social media

The survey also aimed to assess the hunters' attitudes to sharing hunting photographs on social media. The results presented in this section originate from statement questions requiring agreement or not as well as from the analysis of written answers to an open-ended question in the questionnaire. At the end of this section a summary is made of the criteria for the ethical sharing of hunting photographs according to the respondents' answers. One open-ended question (Question 15) asked the respondents how they feel about hunters who post photographs of themselves and the hunted animal(s) on social media. The results are shown in Figure 4.31.

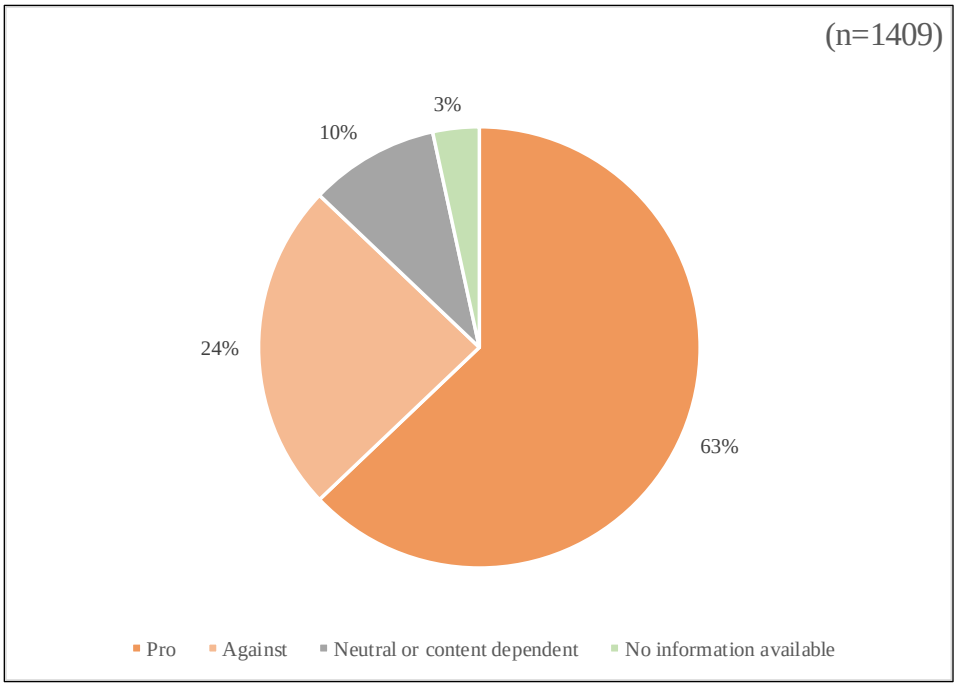


Figure 4.31: Opinions about posting hunting photographs on social media

The open-ended question produced 1409 written respondents that were categorized into four different categories (pro, against, neutral or depending on the content of the photographs, and no information available). Furthermore, it is noteworthy that almost all of the respondents answered the open-ended question. Three out of five respondents are in favour of posting hunting photographs on social media platforms while one quarter do not approve of the practice. Some (10%) hunters do not have an opinion on it or stated that it all depends on the content of the photograph, or the motivation for posting it.

Although 63% (Figure 4.31) of the respondents were in favour of posting hunting photographs on social media platforms, the survey also revealed that only 18% of the respondents document and share their hunting successes on social media (Figure 4.32). More than half of the

respondents (62%) do not post their photographic images on social media platforms. These results suggest that even though hunters do approve of the sharing of photographs, they do not necessarily do it themselves.

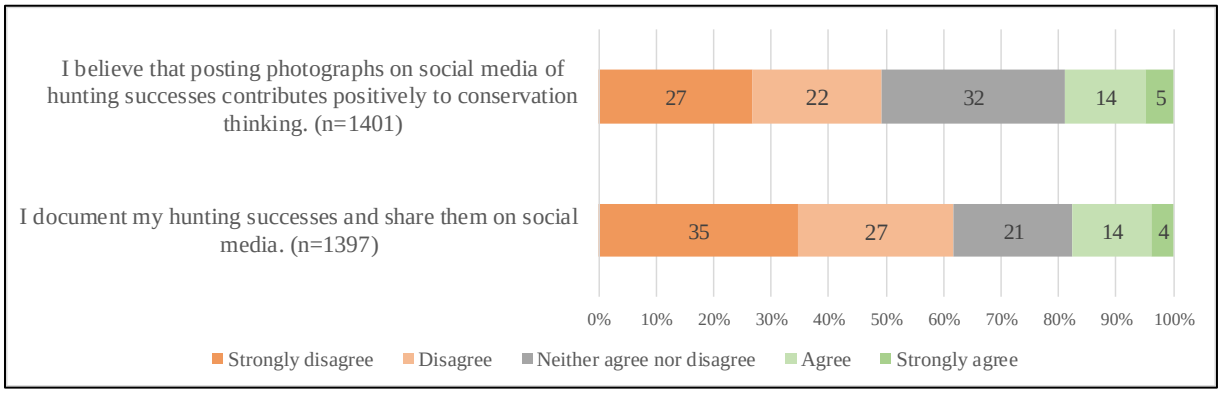


Figure 4.32: Hunters' opinion about the use of social media

It is noteworthy that about half of the respondents do not believe that posting hunting photographs on social media contributes to conservation thinking in a positive way, while only 19% believe that sharing photographs online does contribute to conservation thinking in a positive way and one third indicated that they neither agree nor disagree. This discrepancy has also been observed in the analysis of the responses on the open-ended question. While some respondents argued that displaying their hunting successes on social media has a positive impact on nature conservation through raising awareness, other respondents stressed that it is contra-productive and destroying all efforts to signal positive conservation thinking.

Analysis of variance (ANOVA) – based on the mean responses of certain groups - analysed hunters' level of agreement about documenting and sharing photographs of hunting successes on social media and gender of the respondents produced a significant result ($p= 0.04$), according to which women are slightly more likely to share their hunting successes on social media than men (see Figure 4.33).

Figure 4.33: Level of agreement on usage of social media according to gender

When the respondents were asked to write on how they feel about hunters' sharing photographs of their hunting successes online they expressed various sentiments. They stated that hunting is an important part of their heritage and that the sharing of hunting successes has been part of their culture for thousands of years. For example, one respondent compared the sharing of hunting photographs online to ancient wall paintings of hunting scenes, the sharing of hunting successes being engrained in the South African history and culture and social media websites being the wall paintings of the present. Another respondent stated: "*I feel everyone has the right to expose their social practices as it not only shows the photo, but the story behind it. Being in the hunting fields sends out a sense of going back to the roots of being mankind-hunter - a provider*." The wish to recreate a sense of the past has also been observed by Lovelock (2008b).

Furthermore, it was noted that the respondents often used derogative terms for non-hunters such as "bunny-huggers" or "greenies", which implies that there is low interest in finding a common ground. Some hunters highlighted on the competitiveness of hunting and that sharing photographs online allows them to compete with other hunters around the world, which has also been stated by Darimont, Codding & Hawkes (2017) in an international context.

A common response was that the approval or disapproval of a shared photographs is dependent on what is shown in the photograph. Many of the respondents stated that to be considered as

ethically correct, the photograph must represent the animal in a respectful way. One respondent for example explained: "*I only have a problem when the animal has not been made the star of the photo, I believe the animal should be respected at all times, wash any visible blood off, horns must be pointed up to the sky to show its beauty, posed as if lying down to rest, hunter must remove his hat and glasses, gun should be clear and safe*." What the respondents considered as ethical behaviour is summarized at the end of this section.

The motivation for posting a photograph was seen to play an important role. They stressed that the central point of the photograph should be the animal and not the hunter. Another vital factor is the species hunted and shown. The respondents were generally more approving of photographs showing antelopes and other 'non-vulnerable' species than the iconic Big Five (lion, elephant, rhino, leopard and buffalo).

Some hunters regard it as their right to post hunting photographs as they believe it falls under the right of freedom of speech. They contend that anyone who does not want to see photographs of hunts should just "*look away or unfollow them on social media*." The respondents also differentiated between sharing on closed hunting-related platforms (such as specific hunting forums) and websites open to everyone (especially non-hunters), such as Instagram.

Other hunters stated that the online sharing of photographs allows them to gather information on and inspiration for the environment and about various species for their own future hunting trips. Another significant argument by the advocates for social media is its role in nature conservation. They stress that they appreciate nature and that nature conservation is a high priority for them. They contend that the sharing of hunting photographs on social media platforms raises awareness and inspires the giving of donations to finance nature conservation, as phrased by a respondent: "*No problem with it, it will motivate others to hunt more species enabling more funds for conservation*."

But there are also the opponents of social media being used to share hunting photographs. They insist that photographs should only be shared in specific hunting-related forums or closed groups or be kept for private use only. One respondent commented: *"It's not a good idea as it gives anti-hunters ammunition for their fight against hunting. It should be kept strictly between like-minded people."*

They also make a distinction between photographs of hunts for meat and trophy hunts. A recurrent line of reasoning for not sharing photographs online is the fear of the reactions of others. Their feeling is either not wanting to upset others – they are aware that photographs of shot animals can be distressing – or they are afraid of negative reactions by the opponents of

hunting and consequences that it might bring. Often, they voiced concern about how posting photographs of shot animals and proud hunters might tarnish their reputation as the practice is publicly perceived as disrespectful or bragging behaviour, as described by a respondent as *"I would not do it as it could create a backlash and jeopardise my career and cause stress to my family."*

One of the respondents for example explained: "*I personally wouldn't, to me it feels like bragging, if you going to kill something I feel it is disrespectful to brag about it. We shouldn't create a culture where we think we are 'big boys' when we have guns and kill animals. Poaching is a real problem and I'm sure people who can't afford to pay to hunt responsibly will be more likely to poach if they see social media loaded with 'epic' kill pics*."

Another respondent stated: "*Hunting photos do not belong on social media! Hunting is controversial and a large percentage of people do not understand hunting or its contribution to conservation - therefore they react emotionally towards especially hunting photos. Hunting photos at this level make only a negative contribution to any debate about hunting*."

They emphasized that hunting photographs can easily create wrong impressions of sport hunting, because the postings make it seem like the chief objective of the hunt is to shoot an animal and to show off with the photograph. One respondents stressed that *"…they do irreparable damage to the image of hunting*", which can lead to reputational damage for the whole wildlife-based industry. This was also stressed by Nel (2018) and overlaps with the findings made by Darimont, Codding & Hawkes (2017), who observed that social media posts about lion hunting declined after the hunt of Cecil the lion in fear of negative feedback.

Careful examination of the responses to the open-ended question in the questionnaire revealed familiar ideas and themes about what makes hunting photographs ethical. The most common responses were: *Photographs should be accompanied by a description of the hunt; No sitting and/or riding on the animal; No stepping on the animal; No blood or gore should be visible; Animal should be put into appropriate pose and it should not be in a degrading pose; The body of the animal should still be intact; No offensive or derogative behaviour of the hunter; No inappropriate items (such as sunglasses, hats, alcohol or cigarettes) should be placed on or next to the animal; Hunters should not wear hats and they must show their faces; and No provocative statements should be posted with the photograph.*

Finally, correlation analysis showed a definite but small indirect relationship between the age of respondents and their attitude towards posting images of their hunting successes on social media (Pearson: r= -0.28 and Pearson p-value: <0.01). The younger the respondent, the more likely they are to document their hunting successes and to share them on social media.

4.5 CONCLUSION

This chapter has provided the reader with the analysis and discussion of the results that were gathered through the online survey. The profiling of the hunters revealed that the majority of hunters is between 45 to 55 years old, with almost one third of the respondents falling into this age-bracket. Four out of five respondents have a tertiary education, suggesting that recreational hunting is a sport generally conducted by higher educated people. It was also revealed that a clear majority (96%) of the respondents was male, proving the assumption that hunting is a male dominated sport.

An assessment of the hunters' preferences revealed that more than half of the respondents go on one to two meat hunting trips per year. The results showed that trophy hunting is less common with 70 per cent of the respondents not hunting for trophies at all and only 17 per cent hunting for trophies less than once a year. The three most important reasons to go hunting were to be in nature, for the meat of the shot animal(s) and for the enjoyment of the hunting sport. Furthermore, this chapter assessed the geography of hunting in South Africa in terms of hunter-generating and -receiving areas. The results revealed that Gauteng was the province from which almost half of the respondents originated, followed by Western Cape and North West. Limpopo and Northern Cape were the most popular hunting destinations. Moreover, the environmental, recreational and conservational reasoning of the hunters was also assessed in this chapter. It was revealed that the respondents have an intense awareness of the environmental issues the African continent is facing. Most of the respondents hunt for meat and only a few hunt trophies. Even within the group of respondents the opinions on trophy hunting diverge strongly. The argumentation of trophy hunting opponents and advocates is based on the genetic impact of trophy hunting on the populations, ethical considerations, the high cost of the sport as well as long-term effects on specific species.

The responses revealed that hunting is a very social activity and an important part of the respondents history and culture. It is seen as an important tradition and holds a lot of emotional value. Most of the respondents enjoy hunting in the company of their families, friends or colleagues. The main motivations to go hunting are to gather meat and to spend time in nature. The least important motivations were to shoot trophies, to be entertained and to recreate a sense of the past. The results also revealed that trophy hunting is conducted less frequently, mostly because of its high costs.

Furthermore, it was shown that the respondents perceive hunting as a valuable means for nature conservation if it is conducted in a sustainable manner and as an ecological and economical

valuable option to protect natural landscapes. The majority of the hunters opposes the intensive and selective breeding of specific species, but it was also revealed that over half of the respondents agreed that it is legitimate to hunt vulnerable and threatened species if the generated income is used for nature conservation.

The foregoing also reported on the participants hunting ethics and their opinions on uploading hunting photographs on social media. The majority of respondents supports the idea of posting hunting photographs on social media platforms, but only one in five indicated that they regularly share photographs online. It was revealed that female as well as younger respondents share hunting-related photographs more regularly online. The attitudes of the hunters varied on the topic of posting hunting images on social media platforms, for some it is a means to share experiences and knowledge and for others it is seen as an act of bragging. A list of attributes was created for use as a guideline for composing ethically correct hunting photographs. The following chapter will provide the conclusions of this thesis.

CHAPTER 5 CONCLUSION

This chapter summarises the main findings by reassessing the objectives. The limitations of the study are outlined and recommendations for future research, guidelines and policy on recreational hunting and nature conservation are made in order to work towards resolving some of the controversies around the hunting-phenomenon.

5.1 REVISITING THE OBJECTIVES: SUMMARY OF THE MAIN FINDINGS

The **aim** of this thesis was to examine the geography (the what, where and why) of meat and trophy hunting in South Africa as well as the hunters' environmental, recreational and conservational perceptions of and attitudes to their hunting activities and their contributions to wildlife conservation. To achieve this aim, six research objectives were formulated. In order to evaluate the attainment of these objectives they are restated and the main findings of each are summarized and conclusions are drawn.

Objective 1 Review the appropriate international literature on the history of hunting; the theories on human-environment relationships and pro-environmental behaviour, as well as the constructs and concepts about hunters' motivations to hunt; available case studies on consumptive wildlife tourism and the different types of hunting; and the link between hunting and conservation.

To achieve this objective, an extensive literature study was conducted on the history of various hunting forms, the diverse reasons for hunting and hunting as a form of consumptive wildlife tourism. The literature search extended beyond geography and included academic journals, books, reports, theses and conference proceedings from other fields such as behavioural and environmental psychology, conservation studies, tourism geography, environmental management and leisure studies. The review of literature that concentrated on the history of hunting in Europe, the United States of America, Australia and Africa revealed that hunting is deeply engrained in many cultures and is an essential part of many people's lives. Hunting as a form of subsistence is no longer conducted in most of the countries of the developed world.

Unfortunately, bushmeat hunting [11] is a big threat to biodiversity conservation on the African continent. The review established that connections between hunting, especially trophy hunting, and nature conservation exists. It became clear from extant studies that the extent to which hunting can impact positively on nature conservation is dependent on how sustainable hunting is conducted. Despite the solid academic knowledge, there are continuing debates between the opponents and advocates on hunting regarding the acceptability of hunting for meat or trophies, due to a lack of knowledge and different contexts on both sides of the debate. The reaching of consensus will most likely be difficult. The review also covered several theoretical approaches to gain insight into human-environment relationships, namely the multi-satisfaction approach, place attachment, sense of place, the theory of planned behaviour and the value-belief-norm theory.

Objective 2 Review literature relevant to assessing the larger picture of meat hunting and trophy hunting in South Africa.

This objective aimed to investigate the wider context of the hunting industry in South Africa. This involved the country as a hunting tourism destination, the legislation pertaining around hunting and trophy hunting, the economic contributions of biltong hunting and trophy hunting and the compatibility of hunting tourism with other forms of tourism. It became evident that South Africa is a very popular hunting destination, for local hunters as well as hunters from overseas. It also became apparent from the literature on the economic impacts of hunting that the monetary values diverge widely, depending on the methods of calculation used and the factors that were considered. It transpired that hunting for meat contributes between ZAR0.65 billion and ZAR3.1 billion to the South African economy, while trophy hunting contributes ZAR5.4 million. Furthermore, hunting takes place in dry and rural areas in South Africa, such as Northern Cape and the Karoo, and contributes to the very marginal economy, especially through the creation of employment opportunities.

Recreational hunting is strongly regulated by both national and provincial governments. Furthermore, hunting associations provide guidance to South African hunters and they promote the principles of fair chase through codes of conduct. It also came to light that recreational hunting and photographic tourism can be compatible, provided the topography is suitable and

[11] Bushmeat hunting is the "…unsustainable hunting for consumption and trade of wild meat…" and is still conducted in Africa, Asia and South America (Ripple et al., 2016: 2; Lindsey, Romañach, Matema, et al., 2011).

management adheres to appropriate hunting protocols to minimise the negative effects of hunting on wildlife and visitors.

Objective 3 Create demographic profiles of the local meat hunter and trophy hunter communities in South Africa.

Most of the participants in the survey are meat hunters. The typical respondent was 45 to 55 years and male with a tertiary education. Most of the respondents go on one to two hunting trips for meat a year and 70% of the respondents do not hunt for trophies at all. Hunting trips usually take place in South Africa and very few hunt in bordering countries. The hunters prefer to hunt in groups rather than alone. The most important reasons to go hunting are to be in nature, for the meat they get from the hunts and for the enjoyment of the hunting sport. The option to hunt a trophy animal was ranked very low. Decisive factors determining where they go hunting are the quality of the meat, the price for the animal and the location of the hunting grounds.

Objective 4 Question hunters in which district municipalities they live and in which they hunt so as to map the geography of hunters and hunting areas in South Africa.

This objective was achieved with the help of a questionnaire survey. Most of the hunters originate from the economically-strong areas of Gauteng and Western Cape provinces, especially from Pretoria, Johannesburg and Cape Town, which are the economic hubs of the country. The district municipality from which the largest number of hunters originated was City of Tshwane in Gauteng, followed by City of Johannesburg, Ekurhuleni and City of Cape Town. The least number of respondents originated from district municipalities in KwaZulu-Natal.

The research confirmed the findings of other studies and it revealed that hunting locations in Limpopo, Northern Cape, Free State and Eastern Cape provinces are the most popular hunting destinations in South Africa. The district municipality receiving the largest number of hunters was Waterberg in Limpopo, followed by Pixley ka Seme in Northern Cape and the Sarah Baartman District Municipality near Port Elizabeth.

The findings also revealed that there were no hunting incidents at all recorded for some of the district municipalities. These were the City of Cape Town and the Namakwa district municipality in the Western Cape, the City of Johannesburg and Ekurhuleni District Municipality in Gauteng, OR Tambo District Municipality and Alfred Nzo District Municipality in the Eastern Cape as well as Harry Gwala district municipality, Ugu District

Municipality, eThekwini Metropolitan Municipality, iLembe District Municipality and Mkhanyakunde District Municipality in KwaZulu-Natal.

It can be assumed that hunters choose their hunting destinations according to a distinctive biome (flora and fauna) and other geographical attributes (such as scenic landscapes) as well as the geographical location (distance from residence) of the hunting grounds. The results in the questionnaire have shown that the quality of the meat, the price for the animal and the location of the hunting ground are the most important factors when it comes to choosing a hunting destination. Furthermore, areas with greater availability of huntable species are favoured. The consideration of travel time and distance is also noteworthy. Whereas trophy hunters are generally more willing to travel far distances in order to shoot a rare trophy animal, meat hunters consider the economic facts of the hunt and are less likely to travel long distances, as this increases the cost of the meat due to increased travel costs and time.

Objective 5 Assess the environmental, recreational and conservational reasoning behind South African hunters' hunting preferences, decisions and activities.

The answers to various questions requiring agreement or disagreement with statements on environmental and conservational issues were used to gain a better understanding of their environmental, recreational and conservational reasoning of South African hunters.

The analysis of the responses revealed that hunters have a strong awareness of the environmental issues facing the African continent. It has shown that South African hunters are mostly biltong hunters, with only a small part of them hunting for trophies.

The topic of trophy hunting prompted very controversial and divided opinions to be expressed among hunters. Arguments by the advocates and the opponents of trophy hunting revolved around the genetic impacts on the animal populations, the type of species hunted, ethical concerns, the financial impact on nature conservation and the long-term effects on the wildlife. The results revealed that the respondents are aware that wildlife is a limited resource and that it is important to hunt according to specific codes of conduct in order to ensure the sustainability of the sport. Furthermore, it was established that the respondents are very aware of the environmental issues facing the African continent, such as climate change, habitat loss and the loss of biodiversity.

Hunting is a social activity and forms an important part of the respondents' history and culture. Hunting is not only seen a sport, but also as an important tradition that is passed on from

generation to generation and it has a high emotional value for many hunters. It is a recreational activity that most people enjoy in the company of their friends, families and colleagues. Seldomly do hunters go on their hunting trips alone. Trophy hunting is perceived to be an expensive sport and therefore conducted by less hunters. Therefore, most of the respondents of this survey hunted for meat rather than for trophies. The results revealed that most of the respondents only hunted for the meat they could get or to spend time in nature. The least popular reasons to go hunting were to hunt a trophy, for entertainment and to recreate a sense of the past. Moreover, the results revealed that the respondents have a high awareness of environmental issues and they often base their decision-making on conservational thinking.

The respondents perceived both hunting forms as valuable means for nature conservation, provided the hunting is conducted in a sustainable manner and adheres to ethical codes of conduct. The results showed that 97% of the respondents either strongly agreed or agreed that they usually consider the impacts their actions have on the environment. Nine out of ten hunters regard hunting for meat as being beneficial for the environment. Trophy hunting is viewed as beneficial to the environment by two out of three respondents. Hunting was also perceived as the only ecologically and economically valuable option to protect natural landscapes. Most of the respondents do approve of trophy hunting but not all of them conduct it themselves. The results also revealed that most of the respondents (78%) oppose the intense and selective breeding of wildlife in order to increase their value in the hunting market. Surprisingly, the results showed that two out of three respondents stated that it is legitimate to hunt vulnerable or threatened species, if the generated income is used for nature conservation. Furthermore, it was determined that the respondents having a higher level of education were more likely to support nature conservation financially.

Objective 6 Assess the hunters' perceptions of posting and/or uploading hunting photographs on social media.

The answers given to an open-ended question about the use of social media as a medium to share photographs of hunting successes were used to assess the hunters' perceptions of the issue. It is evident that despite most of the respondents reporting acceptance of the sharing of hunting photographs on social media, only one in five actually uploaded photographs themselves on a regular basis. It emerged that mainly the female hunters and younger respondents were more likely to share photographs online. The respondents' opinions on social media were diverse. Whereas most of the respondents indicated that they are not against sharing

photographs on social media websites, most of them does not upload on a regular basis of fear for public reactions and the bad image that it could create for the hunting sport.

It was also revealed that the acceptance of shared photographs depends on what is portrayed in which way. Furthermore, it depends on the motivation behind the post and if the hunter or the animal is the focus of the photograph. Most of the respondents stated that they approve of the sharing of photographs online, as it functions as a source of information and inspiration for future hunts. Furthermore, it was noted that many respondents perceive it as a form of bragging and unnecessary. It is important to note that the approval or disapproval depends on what is shown on the photograph and that many hunters make a distinction between sharing photographs of hunting for meat and hunting for trophies. Lastly, a list of simple guidelines for ethical hunting photography was created.

The findings of this study have contributed to an understanding of the environmental, recreational and conservational reasoning of the hunters. This study also contributed knowledge about the South African hunters' demographic profile, insights into their motivations to go hunting and the geography of the hunting sport in South Africa. Furthermore, it revealed that most of the respondents hunt for meat instead of trophies, whilst adhering to a strict code of conduct to ensure the sustainability of the hunting sport. Hunting takes place in all provinces of the country, with the most frequented hunting areas being in Limpopo and Northern Cape.

5.2 LIMITATIONS

The success of meeting all the objectives of the study must be seen in the light of a few technical problems. These involved the construction or formatting of two of the open-ended questions in the questionnaire survey. Question 8 and 28 were supposed to capture the correct district municipalities on the origin of hunters (where they live) and where they hunt (hunting destinations). The inability of the respondents' to pinpoint the correct district municipalities caused valuable geographical information to be lost, which in turn limited the number of usable responses on these two questions. In hindsight, this could have been prevented through the use of drop-down menus, where the respondents can choose from a pre-defined set of district municipalities.

Furthermore, the number of responses was much higher than initially expected. This high number of responses was not ideal for the evaluation of open-ended questions (Question 15 and 22) and complicated the thorough analysis of the obtained answers which might have led to a

loss of information. This and the relatively small number of female respondents involved in the survey as well as only few responses from participants with only a primary or secondary education prevents generalization of the findings about the larger universe of hunters.

In order to pre-empt such technological issues it would be useful for further research to submit a draft questionnaire to more experienced questionnaire designers to get feedback on how to construct certain questions.

5.3 RECOMMENDATIONS

This section makes recommendations for future research and stakeholders in the hunting tourism industry on the environmental, recreational and conservational reasoning of hunters as well as future guidelines and policy making.

Because other research has found that the numbers of female hunters are increasing in the USA and Sweden, it is recommended that studies be done specifically aimed at female hunters in South Africa.

Furthermore, it was noted that not a lot of research has been done on the connection between the hunting sport and the use of social media. It would be interesting to conduct further research on the motivations and reasoning behind the posting of hunting photographs on social media platforms and how sharing photographs of hunting successes influences the image of the sport.

It is advisable for future research to investigate geography of hunting in South Africa by moving the focus from the hunters to hunting farms for a greater understanding of the location of hunting destinations in the country. Another restriction of the study was that the questionnaire did not ask about the travel time the respondents are willing to invest for their hunting trips, which prevented the assessment of spatio-temporal relationships. Furthermore, the questionnaire did not ask the respondents which association they belong to, which would have permitted more detailed assessments on the differences between the two member-groups. Both of these questions are recommended for further research.

The questionnaire was created specifically to examine South African hunters and their reasoning. It would have been advisable to base the survey instrument on already existing international research to make the results more comparable with hunters and their environmental and conservational reasoning from other regions.

For future guidelines and policy making it is recommended to strengthen the implementation of multiple conservation and management practices to ensure the sustainability of the sport.

This in turn can hopefully change the overall negative perspective the public has on hunting - especially trophy hunting. Public support is important and can only be reached if they are ensured that hunting does not harm the environment.

5.4 CONCLUSION

As stated in the introduction to this study is the future of African wildlife bleak. Habitat loss and poaching is endangering the survival of many species. Research has shown that hunting can function as a useful source of valuable income to finance conservation areas and nature conservation programmes. An assessment of existing literature has shown that there is a lack of knowledge when it comes to the reasoning of hunters in South Africa.

Therefore, this research adds knowledge to the contemporary scholarship on the reasoning of hunters on the environmental, recreational and conservational impact of their activities.

Chapter 1 introduced the research by setting the scene of the issues facing the hunting industry as well as formulating the aims and objectives that guided this research. It provided an overview of the scientific research process that was applied and it positioned the study in the discipline of geography and described the study area.

Chapter 2 gave a detailed review of international literature on the early history of hunting as well different forms of hunting and it explored the role of hunting as a form of consumptive tourism. The connection between hunting and nature conservation was assessed and the arguments for and against trophy hunting were set out. The history of hunting as a recreational sport in Europe, the USA, Australia and Africa was examined. The ethics and morality of recreational hunting as well as the factors in social networks that influence people to become and stay hunters were considered.

Chapter 3 explored the role of hunting for meat and trophy hunting in a South African context by exploring the history of hunting and the development of a recreational hunting industry in the country. It investigated which events can cause a change in perceptions which can lead to reputational damage and impact the whole industry. Moreover, it assessed the economic contributions that hunting has on the South African economy and evaluated the compatibility of the recreational hunting and the photographic tourism industry.

Chapter 4 reported on the results of questionnaire survey of hunters. A demographic profile was drawn of the respondents and an assessment made of the hunter-generating and hunter-receiving areas in South Africa. Furthermore, it probed the environmental and conservational reasoning

of hunters and their definitions of ethical hunting behaviour – with a focus on the use of social media. The results have shown that most of the respondents disagree strongly with the hunting of purpose-bred animals. Furthermore, majority of the respondents stated that it is acceptable to hunt vulnerable or threatened species (such as lion or elephant) if the generated income is used for nature conservation.

Chapter 5 revisited the objectives that were formulated at the beginning of the thesis, named some limitations of this research and made recommendations for further research.

This thesis aims to work towards solving the dispute between hunting opponents and hunting advocates by shining a light on the motivations of South African hunters. Until now there is no successful way to generate enough income to finance long-term environmental projects. Hunting – and especially trophy hunting – is often criticized by the public for being immoral and damaging for the hunted wildlife populations. Non-consumptive management as well as consumptive management must work side-by-side until one day there will be a way to fully finance nature conservation in a less intrusive way. It is important to find a common ground, as we all strive for the same: the protection and survival of our precious environment and wildlife.

[Wordcount: 39910]

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PERSONAL COMMUNICATIONS

Louwrens M, 2019. Executive Coordinator of the Professional Hunters association. Email on 13.11.2018 about number of association members.

APPENDICES

APPENDIX A: SURVEY QUESTIONNAIRE

STELLENBOSCH UNIVERSITY : HUNTING AND NATURE CONSERVATION

Dear participant,

My name is Lillian Gramberg-Danielsen. I am a student at Stellenbosch University and I would like to invite you to take part in a survey, the results of which will contribute to a research project in order to complete my Masters' degree in Geography and Environmental Studies.

Please take some time to read the information presented here, which will explain the details of this project.
Your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

The purpose of this study is to assess the environmental and conservational reasoning of hunters on their contributions to nature conservation.

The questionnaire will take approximately 20 minutes to complete and will contain a combination of questions covering your expertise as a hunter as well as your opinions on hunting for meat as well as trophy hunting.

RIGHTS OF RESEARCH PARTICIPANTS:
You have the right to decline answering any questions and you can exit the survey at any time without giving a reason. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact Mrs Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

Your information and response to the survey will be protected as the survey is anonymous and all data is saved on a password protected cloud to which only the researcher has access.

If you have any questions or concerns about the research, please feel free to contact the researcher Lillian Gramberg-Danielsen under 21410577@sun.ac.za and/or the Supervisor, Prof. Sanette Ferreira under slaf@sun.ac.za.

To save a copy of this text, please screenshot the website or copy and paste the text into a new word document.

*Required

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UNIVERSITY

I confirm that I have read and understood the information provided for the current study. *

Mark only one oval.

- ◯ Yes
- ◯ No

I agree to take part in this survey. *

Mark only one oval.

- ◯ Yes *Skip to question 3.*
- ◯ No *Stop filling out this form.*

1/5: YOUR EXPERIENCE AS A HUNTER

DEFINITIONS:
Hunting for meat can be defined as the shooting of wild game with the main objective of meat consumption.

Trophy hunting is the shooting of wild game that get selected according to specific physical attributes such as large horns, tusks, body size or skull length.

1. In which country do you hunt the most?

_____

2. How many hunting trips for MEAT do you do a year?

Mark only one oval.

- ◯ I do not hunt for meat
- ◯ Less than once a year
- ◯ 1-2 trips a year
- ◯ 3-4 trips a year
- ◯ 5 or more trips a year
- ◯ Other: _____

3. How many TROPHY HUNTING trips do you do a year?

Mark only one oval.

- ◯ I do not hunt for trophies
- ◯ Less than once a year
- ◯ 1-2 trips a year
- ◯ 3-4 trips a year
- ◯ 5 or more trips a year
- ◯ Other: _____

4. Have you been HUNTING FOR MEAT in South Africa in the last 10 years?

Mark only one oval.

- ◯ Yes
- ◯ No

5. Have you been TROPHY HUNTING in South Africa in the last 10 years?

Mark only one oval.

- ◯ Yes
- ◯ No

6. If you have been HUNTING FOR MEAT outside of South Africa, in which country/countries did you hunt?

_____

_____

_____

_____

_____

7. If you have been TROPHY HUNTING outside of South Africa, in which country/countries did you hunt?

_____

_____

_____

_____

_____

8. If you have been hunting in South Africa within the last year, please indicate what species you shot (for MEAT as well as TROPHIES), how many and in which district municipality you hunted (please answer in the following format: Species x number of animals x district municipality).

_____

_____

_____

_____

_____

9. Do you usually hunt alone or as a part of a group?

Mark only one oval.

- ◯ Alone
- ◯ As a part of a group
- ◯ Both

10. Are you a consumptive/recreational hunter or are you in the possession of a professional hunting licence?

Mark only one oval.

- ◯ Consumptive/recreational hunter
- ◯ Professional hunting license

11. Are your children and your partner welcome to join you on your hunting trips? (Please tick two boxes).

Tick all that apply.

- [ ] Children are welcome
- [ ] Partner is welcome
- [ ] Children are NOT welcome
- [ ] Partner is NOT welcome

12. Please rate how often you go hunting for the following reasons.

Mark only one oval per row.

	Never	Rarely	Sometimes	Often	Always
For the meat	◯	◯	◯	◯	◯
To break away from daily chores and stress	◯	◯	◯	◯	◯
To be in nature	◯	◯	◯	◯	◯
To enjoy the hunting sport	◯	◯	◯	◯	◯
To test my ability as a hunter	◯	◯	◯	◯	◯
It's a part of my culture	◯	◯	◯	◯	◯
For the trophy	◯	◯	◯	◯	◯
For entertainment	◯	◯	◯	◯	◯
To support nature conservation	◯	◯	◯	◯	◯
To recreate a sense of the past / recreate the feeling of being one of the first explorers in Africa	◯	◯	◯	◯	◯

13. I am supporting nature conservation organisations by donating money or through other contributions.

Mark only one oval.

- ◯ Yes
- ◯ No

14. Please rate how important the following factors are to you when you look for a place to hunt at.

Mark only one oval per row.

	Not important at all	Slightly important	Moderately important	Important	Very important
Location of the hunting grounds	◯	◯	◯	◯	◯
Type of biome (natural habitat)	◯	◯	◯	◯	◯
Facilities at the hunting grounds	◯	◯	◯	◯	◯
Variety of game	◯	◯	◯	◯	◯
Possibility to shoot trophy animals	◯	◯	◯	◯	◯
Quality of meat	◯	◯	◯	◯	◯
Quality of trophy	◯	◯	◯	◯	◯
Price	◯	◯	◯	◯	◯

15. How do you feel about hunters who post photos on social media of themselves and the hunted animal?

2/5: HUNTING AND THE ENVIRONMENT

16. To what extent do you agree with the following statements?

Mark only one oval per row.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Loss of biodiversity is a problem in many African countries.	◯	◯	◯	◯	◯
Habitat loss for a lot of species is a problem in African countries.	◯	◯	◯	◯	◯
Climate change has major impacts on the environment.	◯	◯	◯	◯	◯
Humans are superior to animals.	◯	◯	◯	◯	◯
I usually consider the impact that my actions have on the environment.	◯	◯	◯	◯	◯
I document my hunting successes and share them on social media.	◯	◯	◯	◯	◯

17. To what extent do you agree with the following statements?

Mark only one oval per row.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
I believe that it is our right to hunt animals for food.	◯	◯	◯	◯	◯
It is necessary to hunt animals in areas where they are destroying the crops of farmers.	◯	◯	◯	◯	◯
Hunting is the only ECONOMICALLY viable option to protect natural landscapes.	◯	◯	◯	◯	◯
Hunting is the only ECOLOGICALLY viable option to protect natural landscapes.	◯	◯	◯	◯	◯
Hunting animals that belong to an vulnerable/threatened species (such as lions or elephants) is legitimate if the generated income contributes to nature conservation (in the form of the provision of natural habitat, anti-poaching units etc.)	◯	◯	◯	◯	◯
I believe that it is acceptable to breed animals to achieve colour variations to make them more valuable for the hunting market.	◯	◯	◯	◯	◯
I believe that posting photos on social media of hunting successes contributes positively to conservation thinking.	◯	◯	◯	◯	◯

3/5: HUNTING FOR MEAT

DEFINITION:
Hunting for MEAT can be defined as the shooting of wild game with the main objective of meat consumption.

18. Hunting for MEAT impacts the sustainability of an environment...

Mark only one oval.

- ◯ Positively
- ◯ Negatively
- ◯ Not at all

19. To what extent do you agree with the following statements?

Mark only one oval per row.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Farming for hunting purposes provides an alternative economic activity for farmers to diversify farm level economy.	◯	◯	◯	◯	◯
Farming for hunting is a lucrative economic activity that contributes to the management of sustainable ecosystems.	◯	◯	◯	◯	◯
Without hunting for meat there would be significantly less habitat for wildlife.	◯	◯	◯	◯	◯
Hunting for meat generates sufficient amounts of money to finance anti-poaching/wildlife conservation programmes.	◯	◯	◯	◯	◯
Hunting for meat makes local communities appreciate wildlife more because it presents an additional source of income.	◯	◯	◯	◯	◯
Hunting for meat is a useful tool to control animal populations.	◯	◯	◯	◯	◯
Hunting for meat has a bad reputation within the broad public.	◯	◯	◯	◯	◯

20. When you HUNT FOR MEAT, what do you do with the meat of the hunted animal?

Tick all that apply.

- ☐ I sell the meat
- ☐ I process and consume the meat myself
- ☐ I ask a third party (butcher or else) to process the meat and consume it myself
- ☐ I donate the meat to a nearby community
- ☐ Other: _____

4/5: TROPHY HUNTING

Trophy hunting is the shooting of wild game that get selected according to specific physical attributes such as large horns, tusks, body size or skull length. Typical trophy hunting species in South Africa are Impala, Warthog, Gemsbok (Oryx), Springbuck, Sable, Roan, Hartebeest and Kudu as well as Big Game such as Elephants, Lions, Buffalo and Leopard.

21. I approve /disapprove of trophy hunting.

Mark only one oval.

- ◯ Approve
- ◯ Disapprove

22. Please explain your answer to the previous question in one to two sentences.

_____

_____

_____

_____

_____

23. Hunting for TROPHIES impacts the sustainability of an environment...

Mark only one oval.

- ◯ Positively.
- ◯ Negatively.
- ◯ Not at all.

24. To what extent do you agree with the following statements?

Mark only one oval per row.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Trophy hunting indirectly plays an important role in the protection of certain biomes containing potential trophy animals.	◯	◯	◯	◯	◯
Trophy hunting generates income that is used to provide habitat for certain wildlife species.	◯	◯	◯	◯	◯
Without trophy hunting there would be significantly less habitat for certain wildlife species.	◯	◯	◯	◯	◯
Trophy hunting can impact negatively on the balance in the total population of a species.	◯	◯	◯	◯	◯
Income generated from trophy hunting is the reason that some areas are protected for wildlife habitat instead of using it for commercial farming.	◯	◯	◯	◯	◯
Trophy hunting generates sufficient amounts of money for anti-poaching/wildlife conservation programmes.	◯	◯	◯	◯	◯
Trophy hunting makes local communities appreciate wildlife more because it is an additional source of income for them.	◯	◯	◯	◯	◯
Trophy hunting is a useful tool to control animal populations.	◯	◯	◯	◯	◯
Trophy hunting is a necessary tool to gain financial means to provide appropriate habitat for wild game.	◯	◯	◯	◯	◯
Trophy hunting has a bad reputation within the broad public.	◯	◯	◯	◯	◯

25. To what extent do you agree with the following statements?

Mark only one oval per row.

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
I am willing to hunt wildlife species that have been introduced outside of their natural habitat.	◯	◯	◯	◯	◯
In order to shoot a rare trophy, I am willing to hunt wildlife species that have been bred selectively.	◯	◯	◯	◯	◯
I only shoot animals from a specialised hunting vehicle.	◯	◯	◯	◯	◯
When I hunt I follow the principles of fair chase / hunting.	◯	◯	◯	◯	◯

26. When you HUNT for a TROPHY, what do you do with the meat of the hunted animal?

Tick all that apply.

- ☐ I sell the meat
- ☐ I process and consume the meat myself
- ☐ I ask a third party (butcher or else) to process the meat and consume it myself
- ☐ I donate the meat to a nearby community
- ☐ I do not hunt for trophies
- ☐ Other: _____

5/5: PERSONAL INFORMATION

27. Country of residence:

_____

28. If you live in South Africa, in which district municipality do you live?

_____

29. Gender:

Mark only one oval.

- ◯ Female
- ◯ Male
- ◯ Prefer not to say

30. Age:

Mark only one oval.

- ◯ 18-24
- ◯ 25-35
- ◯ 36-44
- ◯ 45-55
- ◯ 56-65
- ◯ 66-75
- ◯ Age 76 or older
- ◯ I prefer not to say

31. Level of education

Mark only one oval.

- ◯ Primary
- ◯ Secondary
- ◯ Tertiary
- ◯ I prefer not to say

Thank you!

Thank you very much for taking part in this survey.
If you have any questions regarding this questionnaire, please contact the researcher Lillian Gramberg-Danielsen under 21410577@sun.ac.za and/or the Supervisor, Sanette Ferreira under slaf@sun.ac.za.